

Treating Common Colds p. 48

December 2017

# Prevention<sup>®</sup>

## Your Stress-Free Holiday Plan

### Quick & Easy Dinners

### Superfast Workouts



### Make Stress Work for You

p. 80

**SPECIAL!**  
2018'S BEST  
& WORST  
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TRENDS

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FROM LEFT: IVANJEKIC/GETTY IMAGES; RYAN MATTHEW SMITH/STOCKSY; JASON VARNEY



# Stress & Energy

**S**TRESS CAN make you stronger? Come on! When this story (p. 80) hit my desk, I was dubious. In fact, it stressed me out. Stress is surging in this country, causing headaches and heart trouble, and we're only on the cusp of holiday madness. Would I be asking our readers to deny their anxiety in a fruitless effort to rise above their feelings?

Once I read the story, though, I got the idea. It says that everyday stress—traffic, deadlines, other ordinary hassles—can be managed and even appreciated if we refocus our approach. Stress can actually inspire us to reach out to others, which is just one of its benefits.

This kind of rethinking can be powerful. In “Learning How to Pivot” (p. 64), Meridith Hankenson is forced to reckon with her own dark feelings after her daughter Schuyler sustains a brain injury in a serious accident. On her way to retrieve Schuyler from a South American hospital, Hankenson remembers the pivot trick, eventually



turning her despair to hope and forward motion. She strengthens herself, which allows her to devote herself to strengthening Schuyler.

Revelation: Sometimes tragedy can be transformational. Ironically, stress can help you find your peace of mind. That may come in handy this season. Here's to happy and anxiety-free holidays!

Share your thoughts with me at [barbara@prevention.com](mailto:barbara@prevention.com).

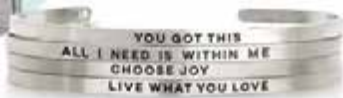
*Barbara*

## GET THIS

“You Got This!”—the motto on *Prevention*'s loose-fitting cotton T—provides motivation for you and others (\$25). For more inspiration, try these cuff bracelets inscribed with a variety of messages (\$20 each). All are available at [shopprevention.com](http://shopprevention.com).



[shopprevention.com](http://shopprevention.com)





# Letters to the Editor

*Your comments on the October issue*

## LOVE YOUR AGE

I feel better at 75 than I did at 45. Are some things harder for me to do? Of course. But are there rewards for having made it to 75? Yes—many. I have a sense of freedom I never had when I was younger. It doesn't matter all that much how people feel about me. It is now more important to me that I like who I am.

**Isabel Gillett /**  
Phoenix

What a powerful story about your Aunt Vera! I love that you are promoting loving your age.

We all need to see that it's possible to be strong at any age. I want to be like Vera!

**Nikol Johnson-Sanchez /**  
Fort Lauderdale

At 67, I can confidently say that this is the best part of my life. Is it what I would have imagined 20, 30, or 40 years ago? Far from it.

But it's filled with a joyfulness I never had the time to recognize back then.

**Barb Prescott /**  
Northbridge, MA

## UNNECESSARY MASTECTOMIES

In March, I found a lump in my breast, which was missed by a mammogram. In April, I opted for a double mastectomy. My surgeon explained my options and was confident I could get by with a lumpectomy, but he supported my decision. He also supported my choice to forgo reconstruction. I'm flat and healthy, and I have peace of mind.

**Tammy Thaxton /**  
O'Fallon, MO

## NEVER BETTER

I don't understand why Kathie Lee Gifford and Hoda Kotb were asked if they ever struggled with

### CONNECT WITH US

Send your comments to [letters@prevention.com](mailto:letters@prevention.com). You may send your comments, letters, stories, photos, images, text, content, information, and any other material (the "work") to us in connection with *Prevention*. Please include your full name, address, e-mail address, and phone number with all work you send us, following the instructions (if any) we provide. We regret that we cannot acknowledge or return any work. You must be a US resident and at least 18 to send us work. By submitting your work, you grant permission to Rodale Inc. and its licensees ("Rodale Parties") to edit and use the work worldwide for any purpose, including promotional purposes, in any form of media, and you agree to our Terms of Use at [rodale.com/customer-care/terms-of-use](http://rodale.com/customer-care/terms-of-use).

their weight. Is it because they are women? Would you ask that same question of men?

**Leah Richardson /**  
Lacey, WA

## FIT AT 80+

Your recent article on 81-year-old yoga teacher Alice Rocky was so inspiring to me! I am also a yoga teacher; I began studying when I was 50, earned my certification, and now teach at two local gyms as well as a local college. Welsh poet Dylan Thomas said it best: "Do not go gentle into that good night."

**Tina Terry /**  
Payson, AZ

## PREVENTION AT EVERY AGE

I'm a senior in college, and I've been reading *Prevention* for the past 2 years. I absolutely love it and never miss an issue. It has furthered my passion for holistic treatments and natural remedies. *Prevention* is definitely becoming a buzzword among my generation of women.

**Veronika Peterka /**  
San Diego

## PREVENTION. STRONGER.

I love your motto. My husband was recently diagnosed with colon and lung cancer. On the day we found out, I thought of the word *stronger* in your magazine. Reading it kept me stronger for him.

**Sonia Rosario /**  
Brandon, FL

I love your message about working toward a stronger body and mind—the key to success in all areas of our life!

**Sue-Anne Hickey /**  
Montreal



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Stephen Twilliger, EVP/CFO 9/26/2017



# *Pulse*

NEWS, IDEAS, AND EXPERT ADVICE  
FOR YOUR HEALTHIEST LIFE

## **Best & Worst Health Trends in 2018**

Is coconut oil still in? What's the latest on weight loss? Will this new treatment make you stronger—or is it just a fad? We separate help from hype in our predictions for the hot new health trends.



## TREE'S COMPANY

Long a cornerstone of Japan's national health program, "forest bathing" is catching on in the US, thanks to research showing that time spent in nature can yield impressive benefits for mind and body. Beginners can request a free starter kit at [natureandforesttherapy.org](http://natureandforesttherapy.org).

# NEXT-WAVE HEALTH INVENTIONS

Intimate apparel and mattresses are among new “smart” products offering high-tech solutions for age-old ailments.



## FOR SLEEP TROUBLE

Inventors are taking note of Americans' lack of slumber. One company asks poor sleepers questions about their sleep habits and measures their spinal alignment to match them to a mattress. Another mattress monitors sleep patterns to help people maintain a regular schedule.



## FOR HEART DISEASE

An MIT start-up company has developed a bra that uses Bluetooth technology to monitor heart rate, breathing, and other cardiovascular functions to prevent heart disease. Available in 2018, the bra syncs to a smartphone app, which analyzes the data and provides insights for improving heart health.



## FOR HAND TREMORS

Microsoft inventor Haiyan Zhang has created a vibrating watch that eases hand tremors, a common symptom of Parkinson's disease.

The vibrations seem to disrupt neural signals that cause shaking. In the first test, a patient wearing the watch was able to write legibly for the first time in years.



## FOR HEARING LOSS

A sound-recognition device called Wavio detects sirens, alarm clocks, and doorbells to alert the hearing-impaired via a phone, watch, or computer. Users program an app to choose which sounds to monitor. The device then sends notifications to the user when those sounds are detected.

## OK TO SKIP

From hot to cold, these coming trends promise more than they deliver.



## Infrared saunas

These “sweat lodges,” which use lights like the ones in neonatal ICUs, are believed to lower cholesterol and fight obesity; research says otherwise.

THIS PAGE, SAUNA: KEITH/LS/GETTY IMAGES.  
OPPOSITE PAGE, CLOCKWISE FROM TOP: SKUNEVSKI/GETTY IMAGES,  
CASARSAGURO/GETTY IMAGES, ALISON WINTEROTH/ISTOCK



## Herb of Interest

The latest superfood is moringa, which is high in antioxidants that may help quell inflammation. Typically, moringa leaves are brewed as tea, ground into powder to be taken in capsules, or added straight to food. Expect the herb to become a staple ingredient in energy shots and protein bars in 2018.



### Crystals

They're back from the '70s, and they supposedly promote positivity, calm, and creativity. But there's no scientific evidence to back up the claims.



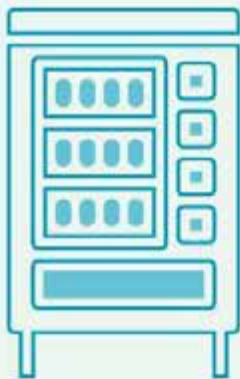
### Cryotherapy

Spending 2 to 4 minutes in  $-300^{\circ}\text{F}$  won't fix asthma, arthritis, or migraines as claimed, but it will pose risks like frostbite, burns, and asphyxiation.



## GRAB-AND-GO HEALTH

Vending machines filled with healthier fare than greasy chips and sugary candy bars are showing up in airports, offices, and other public places these days. The new machines dispense organic, vegan, gluten-free, and other inspired food and drink choices, including yogurt, fruit, and prepared salads. Some are even stocked with organic or locally sourced snacks and meals packaged in reusable glass jars. Healthy vending has also infiltrated drugstore chains like CVS; the company recently launched its own machines stocked with more than 70 options, including healthy snacks, natural cold medicines, beauty and personal care products, phone chargers, first aid essentials, and vitamins.



## SLOWDOWN IN THE VITAMIN AISLE

Sales are decreasing in the \$23 billion vitamin, mineral, and supplement industry as consumers struggle with trust and cost, according to a recent report by trend forecaster Mintel. Adults age 55 and older are increasingly seeking out products to treat specific ailments such as joint pain, rather than multivitamins for general wellness. Expect more detailed labels as companies try greater transparency to boost sales.

TATJANA RISTANIC/ISTOCKSY





# DECODING YOUR DNA

**New, at-home genetic kits mine your DNA for detailed data, including odds of future health problems and suggested personalized workout and nutrition plans.**

Company	What the kit can tell you	What it can't
<b>23ANDME</b> A peek into genetic markers for your health and ancestry (\$199)	Whether some of the variants in your DNA are associated with certain disease risks, such as Parkinson's and late-onset Alzheimer's. You also get more than 75 online reports covering areas such as personal preferences, sleep habits, and ancestry.	Your specific disease risks. In other words: Having a gene mutation linked to elevated risk of a disease doesn't mean you'll get the ailment.
<b>VIOME</b> An exploration of your gut microbiome (\$399 a year)	How your body metabolizes nutrients as well as the overall composition, health, and activity of the trillions of microbes living in your gut. Results generate a personal gut health guide, plus diet and lifestyle recommendations.	The diseases or health conditions you may suffer from now or in the future. Long-term studies are still needed to make headway in this realm.
<b>HELIX</b> A one-stop genetic marketplace (\$80+)	Insight into your ancestry, inherited diabetes and cholesterol risks, and best diet and exercise plans based on your genetic makeup. You choose the specific information you want, and your DNA results are sent to other companies for analysis.	Your specific disease risks. With these and other such tests, a genetic counselor can help you understand the results.

## PRECISION MEDICINE

Old think: one-size-fits-all medical treatment.  
New think: doctors taking a closer look at individual patients and tailoring treatment to their medical history, genetic code, microbiome, behavioral patterns, diet, lifestyle, and even hometown air quality.

## More Spores!

The earthy mushroom is known for its abundant vitamins and minerals and potential ability to enhance the immune system and prevent cancer. In the coming year, expect to encounter a wider variety of species—including the chaga, enoki, maitake, and reishi—in the produce aisle and as added ingredients in chocolate, granola bars, coffee, and teas.



JILL CHEN/STOCKSY

# EAT, DRINK, AND BE HEALTHY

More than ever, foods and beverages are loaded with probiotics and other wellness-oriented ingredients. Here's a look at what you'll see next year.



## FOODS

### Granola

Probiotics are the newest ingredient in the popular breakfast food.

### Kimchi

This already trendy Korean side dish made with seasoned napa cabbage will debut in more products.

### Chocolate

Gut health gets sexier with probiotic chocolate bars and chocolate-flavored edible supplements.

### Honey

Innovators will ferment the much-loved natural sweetener to include probiotics.



## PROBIOTIC DRINKS

### Tea

A growing number of blends will include heat-resistant probiotic strains.

### Kombucha floats

The popular fermented tea gets a modern twist with this healthier take on the classic root beer confection.

### Juice

Fruit drinks get in on the probiotic trend, adding live and active cultures.

### Drinkable vinegar

Predicted to be the next kombucha, the vinegar is diluted with juice or sparkling water and typically contains billions of live and active cultures.



## WELLNESS DRINKS

### Watermelon juice

This workout recovery drink is rich in antioxidants and contains an amino acid that may reduce muscle soreness.

### Pickle juice

Look for this low-calorie fix for muscle cramps in unlikely products like ice pops and fruit punch.

### Plant-based water

Birch, maple, and cactus waters deliver big flavor without loads of sugar.

### Oat milk

Expect to see this sweet-tasting, dairy-free alternative to milk in new, ready-to-drink products.

# WHAT'S OUT, WHAT'S IN

We scoured new products and asked Christy Brissette, a registered dietitian and president of 80 Twenty Nutrition, about yesterday's health news and the next big things.

## OUT

### EXTREME DIETING

Strict eating plans like the carb-banishing ketogenic diet and the meat- and dairy-free vegan diet exclude crucial food groups.

### JUICE DETOXES

These diets have been revealed as phony fixes for "toxic" overload, and they don't promote sustainable weight loss, either.

### ARTISANAL SAUERKRAUT

Adopted quickly by mainstream foodies, the gut-healthy barbecue staple is no longer novel.

### COCONUT OIL

The American Heart Association issued an advisory on coconut oil in 2017, due to its enormous levels of saturated fat.

### ALMOND FLOUR

This was one of the first flour alternatives of the gluten-free movement, but the buzz is gone.

### MICROGREENS

The bloom is off these young sprouts of common leafy superfoods like arugula and kale.

### TURMERIC

The spice dusted popcorn, tortillas, and more in 2017, but it's time for the next hot thing.

### ANCIENT GRAINS

Spelt and farro seemed exotic just last year, but the novelty has worn off.

### SOY MILK

The original breakout star of the plant-based milk world, soy is losing its luster to a variety of new nut milks.

## IN

### FLEXITARIAN DIET

This plant-based diet occasionally includes meat in a more relaxed approach to reaping health rewards.

### SIPPABLE SOUPS

Unlike juice, these veggie-packed bottled soups are packed with fiber.

### NATTO

The Japanese dish made of fermented soybeans is trending, thanks to its appealingly savory flavor.

### AVOCADO OIL

You'll see this oil, much lower in saturated fat than coconut, in an increasing number of products, including chips and mayonnaise.

### CASSAVA FLOUR

Rich in fiber and made from a root vegetable native to Brazil, this flour is the new gluten-free, grain-free staple.

### BABY QUINOA

Tiny and crunchy, baby quinoa delivers many of the same health benefits as quinoa and a bit more protein.

### GINGER

This root is taking over as the "it" flavor, especially in beverages. Ginger water, juice, and infusions will flood the market.

### ROOT VEGETABLES

You'll see more breads made with naturally sweet, vitamin A-rich sweet potato and squash as the main starches.

### CASHEW MILK

Almond milk has been a consistently popular alternative to soy, but slightly sweeter cashew milk is gaining ground.





## Weight Loss by the Numbers

Weight loss attitudes are changing! While more people are trying to lose than maintain weight, they're likely to focus on nutrition in 2018. A recent report found:

**64%**

People who follow their own eating plan for weight management rather than a dietary professional's

**82%**

Adults who say they read nutrition labels

**EIGHTY-NINE**

Percentage of people who say health—not appearance—is their top reason for watching their weight

**ABOUT HALF**

Men and women who think *dieting* is an outdated term

**84%**

Adults who are trying to limit their sugar intake

## Functional Fitness

A type of workout that targets muscles used in everyday tasks (like vacuuming or carrying groceries), functional fitness is in—and necessary—to help prevent injury as well as maintain independence for seniors. The routines combine exercises to strengthen muscles and joints, promote balance, and boost flexibility and mobility.



## ANIMAL ENERGY

Look for this option among the fitness classes at your gym next year: Animal Flow mimics the natural movements of animals like crabs, frogs, apes, and bears for a total-body workout said to strengthen core muscle groups, improve flexibility, and torch calories.

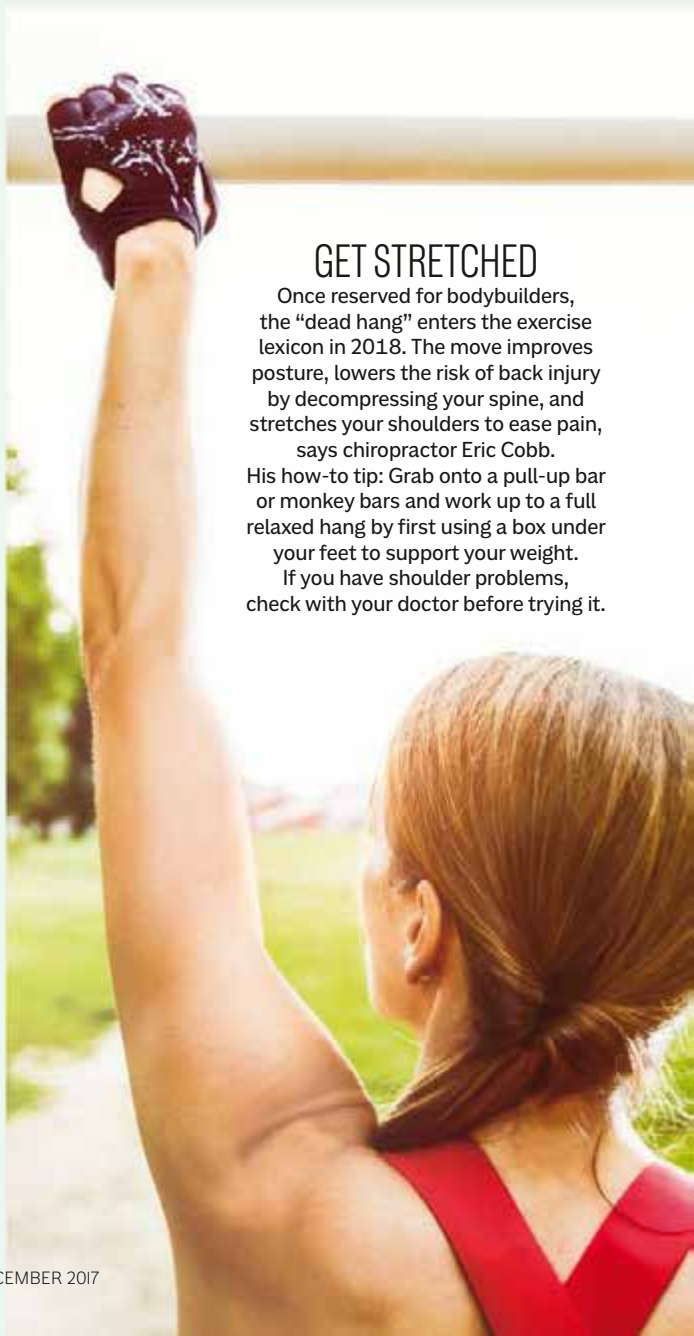
“Animal movements develop full-body conditioning and bring us back to our primal roots,” avows certified personal trainer Mike Fitch, who created the program. If you can’t find a gym near you that offers it yet, you can test out free sample videos or purchase a DVD or eVideo at [animalflow.com](http://animalflow.com).

## GET STRETCHED

Once reserved for bodybuilders, the “dead hang” enters the exercise lexicon in 2018. The move improves posture, lowers the risk of back injury by decompressing your spine, and stretches your shoulders to ease pain, says chiropractor Eric Cobb.

His how-to tip: Grab onto a pull-up bar or monkey bars and work up to a full relaxed hang by first using a box under your feet to support your weight.

If you have shoulder problems, check with your doctor before trying it.



# Your Fit in 10 Plan

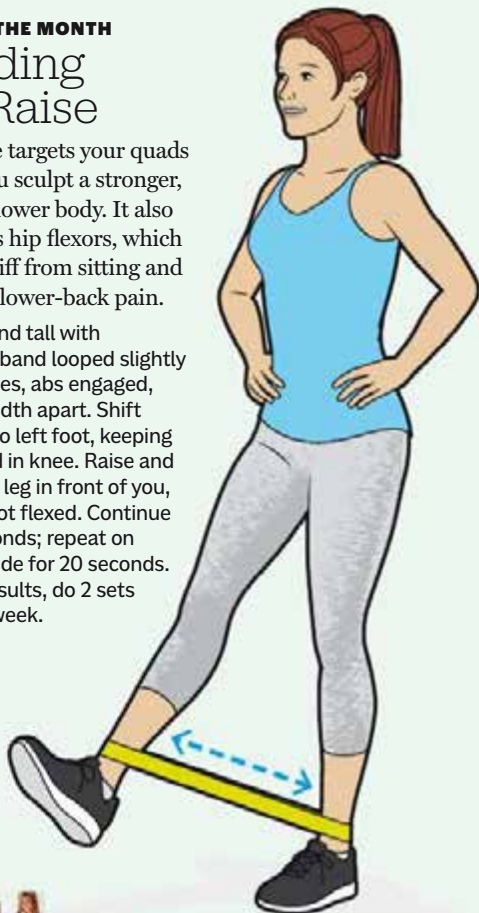
Lose weight, build strength, and get inspired.

## MOVE OF THE MONTH

### Standing Leg Raise

This move targets your quads to help you sculpt a stronger, shapelier lower body. It also conditions hip flexors, which become stiff from sitting and can cause lower-back pain.

**TRY IT** Stand tall with resistance band looped slightly above ankles, abs engaged, feet hip-width apart. Shift weight onto left foot, keeping slight bend in knee. Raise and lower right leg in front of you, keeping foot flexed. Continue for 20 seconds; repeat on opposite side for 20 seconds. For best results, do 2 sets 3 times a week.



#### 10 MINUTES TO SLIM & STRONG

For the new 8-week program of 10-minute meals and 10 minutes of daily exercise, go to [Fitin10SlimandStrong.com](http://Fitin10SlimandStrong.com). Has Fit in 10 transformed your life? Send your story to [readerstories@prevention.com](mailto:readerstories@prevention.com).



#### MAKEOVER OF THE MONTH SARAH M.

**Age 34**

**Pounds lost 18**

**Inches lost 24**

Working long hours as an accounting and HR consultant sapped the time and energy Sarah thought she needed to stay healthy. She often grabbed high-calorie takeout and skipped workouts when she was busy. Eventually, her weight hit 220 lb. "I knew my self-worth wasn't about the number on the scale, but I wanted to be strong and fit," she says. After trying the Fit in 10 program and realizing she could make a healthy meal and do a focused workout in 10 minutes each, she dropped 18 lb in 8 weeks. "I love how much stronger my body feels," she says. "I feel light and energized."

# Good Food Secrets of the World's Healthiest Eaters

These tips and tricks make it easy to follow the Mediterranean diet.

BY THE EDITORS OF *PREVENTION* AND  
JENNIFER McDANIEL WITH MARYGRACE TAYLOR

**I**N THE late 1950s, American physiologist Ancel Keys was conducting research in southern Italy and Greece when he made a surprising discovery: The people who lived in countries that bordered the Mediterranean Sea seemed healthier than any of the other populations he'd studied around the globe. In fact, they enjoyed some of the longest lives and lowest heart disease rates in the world.

Keys could have attributed the benefits to the abundant

sunshine or invigorating salt water. But what if, he wondered, they resulted from the food? The people in this region had diets focused on fresh fruits and vegetables, whole grains, and beans. They used olive oil (and plenty of it) as their primary fat. They flavored their food with herbs and spices instead of salt. And they ate very little meat and few refined carbohydrates or processed foods.

Since then, Keys's theory has been proved: An ever-growing body of evidence shows that the Mediterranean style of eating is one of the most effective ways to maintain a healthy weight, feel great, and live a long, vigorous life. In fact, a 5-year study of nearly 8,000 adults concluded that following a Mediterranean diet could reduce the risk of heart disease by up to 30%.

Adopting this approach to eating is a matter of shifting many of the foods you already enjoy—fruits, vegetables, whole grains, legumes, healthy fats, and seafood—to the center of your plate. As you eat more of these foods, you'll naturally have less room for unhealthy ones. Here are 12 simple steps you can take to give your diet a Mediterranean makeover.





The veggie-packed Mediterranean style of eating is linked to lower blood pressure and blood sugar.

## **1** Go with the seasonal flow.

Instead of trying to create a meal plan out of thin air, let the seasons be your guide. If the market is overflowing with fresh carrots or parsnips, for instance, there's a good bet that they're at their peak of deliciousness, so build your meals around these fresh ingredients.

## **2** Start with a pile of greens.

In many parts of the Mediterranean region, a meal is not complete without a heaping mound of lettuce, spinach, kale, Swiss chard, or dandelion greens. Rethink your usual mealtime ratios by having a large green salad and a small portion of protein rather than the reverse, or use raw or cooked greens as a bed for fish, chicken, or even pasta or rice.

## **3** Make a meal out of your sides.

Take a cue from Spanish-style tapas or Middle Eastern meze platters and create a meal from several veggie-centric, appetizer-style dishes (like roasted cauliflower or tomato-and-cheese kebabs). You'll be surprised by how satisfying a selection of small plates can be.

## **4** Cook your whole grains on Sunday.

Preparing a big batch of whole grains ahead of time makes it easy to add them to your recipes all week long. Try stirring brown rice into soups or adding bulgur to your favorite meatball recipe. You can also fold cooked grains into muffin batter or even add texture (and an extra boost

# YOUR MEDITERRANEAN MENU

To reap the impressive benefits that come with this approach to eating, here's what you should aim for.



## DAILY

Fruits and vegetables	Nuts and seeds
Whole grains	Olive oil
Legumes	Herbs and spices

## SEVERAL TIMES A WEEK

Fish and shellfish (at least twice weekly)	Cheese
Poultry	Yogurt
Eggs	Red wine (if desired)

## OCCASIONALLY

Red or processed meat	Butter
Refined grains	Soda and sugary drinks
Packaged or highly processed snacks	Sweets and desserts

of nutrition) to pasta dishes by swapping half of the pasta for brown rice.

## 5 Treat meat as a flavor enhancer.

Use smaller portions of protein in vegetable-based dishes. Try tossing a little shredded chicken or turkey into a grain-and-vegetable pilaf, or tuck some into stuffed peppers or mushrooms along with whole grains, nuts, and herbs.

## 6 Find new uses for bread.

When you eat Mediterranean, bread isn't just for sandwiches. Toss crunchy toasted whole grain bread into a salad as a nutritious alternative to white croutons. If you have leftover whole grain bread that's just starting to go stale, use it for thickening soups or stews.

## 7 Swap sweet yogurt or cheese for savory.

Yogurt and cottage cheese are always tasty with fruit, but they're wonderful in savory dishes, too. A dollop of cool, tangy yogurt is an ideal contrast for vegetables like warm, earthy beets. Meanwhile, protein-rich cottage cheese paired with tomato, cucumber, fresh herbs, and olives makes a satiating meal, especially when accompanied

by whole grain bread. In general, when choosing cheeses, opt for small doses of high-quality varieties (avoid plastic-wrapped “cheese products”).

## 8 Bake with whole grain flours.

Whole wheat flour is a great option, but cornmeal, rye flour, and buckwheat flour are equally delicious choices. Try substituting half of the white flour for whole grain flour in your favorite cookies or quick breads.

## 9 Check your condiments.

Many store-bought varieties of mayonnaise are made with soybean or other low-quality oils. Opt for a brand made with extra virgin olive oil instead. Another option: Use other healthy fat sources—like avocado, hummus, or tapenade—to give sandwiches a creamy flavor kick.

## 10 Think simple for snacks.

This means sticking with foods in their most natural, whole form—like fresh fruits and vegetables or nuts and seeds—rather than highly processed foods. Alternatively, make a batch of a tapas-style snack, like cheese-stuffed dates or a roasted pepper dip, that you can reach for throughout the week.

## 11 Give your food a flavorful finish.

Mediterranean eaters drizzle olive oil on their food all the time—it’s that final flourish that adds extra flavor and richness to finished dishes. Fat is high

in calories, though, so adding more to your meal might not make sense if you’re trying to lose weight. Still, as a rule of thumb, it’s fine to drizzle your meal with a teaspoon (approximately 50 calories’ worth) of extra virgin olive oil before serving. You can also top dishes with fresh lemon or orange juice for a pop of flavor.

## 12 End meals with fruit.

For everyday meals, most Mediterranean eaters enjoy fruit for dessert. Have what’s in season—berries in the spring and summer, pears or figs in the fall, clementines or pomegranates in the winter—and make it special by serving it on a pretty platter.

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*Adapted from Prevention Mediterranean Table: 100 Vibrant Recipes to Savor and Share for Lifelong Health by the Editors of Prevention and Jennifer McDaniel with Marygrace Taylor © 2017 Rodale*

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To order, go to [prevention.com/mediterraneantable](http://prevention.com/mediterraneantable).



## Does It Work?

# Migraine Remedies

All-natural treatments that claim to ease the pain

BY ASHLEY BREEDING

**M**IGRAINE HEADACHE, a debilitating disease that affects more than 36 million people in the US, typically causes throbbing on one side of the head, along with nausea, blurred vision, and sensitivity to sound.

A key underlying cause is abnormal activity in the trigeminocervical complex, or the brain's "command center," says Deena Kuruvilla, chair of complementary and alternative medicine at the American Headache Society. This can release inflammatory peptides that trigger migraines, she says.

Other triggers include stress, irregular sleep, weather changes, alcohol, caffeine, and dehydration, according to the

American Migraine Foundation. Women ages 25 to 55 are most susceptible. Sometimes addressing the underlying cause—by drinking more water or getting more sleep, for example—may help relieve symptoms. Prescribed triptans (Imitrex, Treximet) can help some sufferers, and OTC pain relievers (Aleve, Excedrin) might ease mild migraines, but they can also cause side effects. Migraine sufferers, then, might want to consider nondrug alternatives. But do they work?

### Earplugs

**THE CLAIM:** Plugs like MigraineX (\$12 per pair) regulate weather-related buildup of ear pressure, reducing the intensity and duration of migraines. A MigraineX app provides 24-hour weather forecasts and alerts on barometric pressure changes, so users know when to use the plugs.

**THE EVIDENCE:** Some studies suggest that up to 78% of migraines are weather related, Kuruvilla says, but researchers haven't pinpointed a firm causal relationship. The theory is that low barometric pressure reduces oxygen in the air, which in turn





deprives cerebral blood cells, she says. No research confirms the claims.

**THE UPSHOT:** If you're sensitive to sound, the plugs may soften noise, but Kuruvilla says she's seen no clear proof that the products alleviate migraines.

### Musculoskeletal Therapy

**THE CLAIM:** By using diagnostics to examine the musculoskeletal system of the head, neck, and jaw, rehabilitation systems like TruDenta's (which starts at \$200) locate migraine-causing inflammation and tension. A series of noninvasive procedures, such as ultrasound, trigger-point manipulation, and cold-laser therapy, then treats the root cause of this tension: temporomandibular disorder, which occurs when the joints in your jaw aren't working

properly, Kuruvilla says.

**THE EVIDENCE:** "A clear connection exists between migraine and TMD," Kuruvilla says. But the impact of these procedures on TMD has not yet been studied.

**THE UPSHOT:** Given the lack of research and the cost, you're better off trying something with more evidence behind it, Kuruvilla says.

### Acupuncture

**THE CLAIM:** Practitioners of this ancient Chinese technique insert hair-thin needles into specific

points on the body, stimulating nerve fibers that shut down pain signals.

**THE EVIDENCE:** A recent Cochrane review of studies that included a total of nearly 5,000 migraine sufferers showed that acupuncture halved the frequency of headaches. The same review also looked at three trials in which acupuncture was compared with a drug proven to reduce migraine frequency; in each trial, the acupuncture group saw a larger reduction in the frequency of attacks.

**THE UPSHOT:** The Cochrane study found that six or more sessions can help. Kuruvilla says that of these three treatment options, acupuncture holds the most promise because it increases activity in the system responsible for producing pain-relieving endorphins.

# Are Statins Safe?

Dr. Andrew Weil discusses the pros and cons of cholesterol-lowering drugs.

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**S**INCE cholesterol-lowering statins were approved for use 30 years ago, the number of Americans taking the drugs has skyrocketed. There are nearly a dozen different statins on the market, including atorvastatin (Lipitor) and simvastatin (Zocor). They work by blocking an enzyme the liver uses to produce cholesterol. More than a quarter of adults in the United States now take them, at an annual cost to the health care system of \$17 billion. Yet cracks are appearing in previously unassailable evidence of their safety and effectiveness—including a debate over how well the drugs work for older women.

Statins' popularity results from one of the most widely accepted theories of heart disease, which is that the main culprit is cholesterol buildup

in arteries. Cholesterol is an essential component of cell membranes, and the body uses it to produce hormones and bile acids. But when there is too much cholesterol in the blood, it can block blood flow in arteries, potentially causing a heart attack or stroke.

There's plenty of evidence that statins can lower LDL ("bad") cholesterol, but the unanswered question is whether that leads to fewer heart attacks and strokes. At least half of the people suffering a first heart attack have normal serum cholesterol levels, meaning that something else must be a factor.



**Andrew Weil, MD,** is founder and director of the Arizona Center for Integrative Medicine.

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**3 WAYS TO LOWER  
CHOLESTEROL  
NATURALLY**

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Research shows that the people most likely to benefit from statins have already had one heart attack or stroke, have peripheral vascular disease (poor circulation), or are genetically predisposed to high cholesterol.

Potential side effects for anyone taking statins include muscle weakness, back pain, cognitive impairment, liver dysfunction, and increased risk of diabetes. For people at high risk of heart disease, the benefits of taking statins may outweigh the hazard of these side effects. For others, the evidence is not so clear.

Studies show, for instance, that statins are associated with an increased risk of diabetes in postmenopausal women. Statin manufacturers tend to minimize this problem and others, and many physicians dismiss the possibility that older women's symptoms or illnesses might be a result of taking statins.

There are other theories about what causes heart disease besides or in addition to cholesterol. I believe that

inflammation, which can cause blood clots and arterial damage, plays a huge role—perhaps even a larger one than cholesterol. Statins and other drugs alone are not an adequate answer to high cholesterol and inflammation. There are natural options, too, such as red yeast rice, which contains several cholesterol-lowering compounds with far fewer side effects (see more tips below). I believe medication should be a last resort for people whose cholesterol or other cardiac risk factors can't be lowered through diet and lifestyle modifications alone.



## 1 Eat an anti-inflammatory diet.

Center your meals on vegetables, fruits, and fiber-rich legumes such as beans, lentils, and peas. Get protein from lean animal sources and healthy fats from foods like olive oil, avocados, and nuts.

## 2 Move more.

Getting regular aerobic exercise (aim for 30 minutes a day) can help you manage your weight and reduce your risk of heart disease.

## 3 Relax.

Practice meditation, yoga, or tai chi, and spend time with people who make you laugh—all of which can reduce inflammation and indirectly help lower cholesterol levels.

# 5 Myths About Happiness

Real ways to get it and keep it

BY BLAKE MILLER

ILLUSTRATIONS BY ANDREA DE SANTIS

**L**ike love, happiness can be elusive. Although thousands of self-help books and self-proclaimed joy gurus promise to show you the one true path, there's no single route to Happyville. "Happiness is a slippery thing," says David Linden, a professor of neuroscience at Johns Hopkins School of Medicine and the author of *Touch: The Science of Hand, Heart, and Mind*. "What makes one person happy can make another miserable." There's no shortage of axioms about happiness, so let's use scientific research to bust a few of the more common myths about achieving contentment.





## MYTH #1

### Money can't buy happiness.

**MYTHBUSTER:** While riches certainly are not a requirement for bliss, there is a way that winning the lottery can buy you a smile: by saving you time, says Ashley Whillans, an assistant professor at Harvard Business School. "Once your basic needs such as home, food, and clothing are met, if you're able to spend the money that's left on things like a housekeeper or lawn service, you will be happier," says Whillans. In a study she conducted, participants were asked to spend \$40 on a material item such as clothing. The next weekend, the same participants were asked to spend money on a time-saving service. After purchasing the service, participants reported less anxiety and fewer feelings of time-related stress than after purchasing the material item.



## MYTH #2

### Happy people live longer.

**MYTHBUSTER:** Being happy won't necessarily extend your life, according to a study in the *Lancet*, which found that healthy participants who said they were unhappy had no increased risk of death over those who reported being happier overall. Good news for the cheery: Other research shows that a positive outlook can help people manage chronic diseases such as diabetes.



## MYTH #3

### The pursuit of happiness brings true joy.

**MYTHBUSTER:** Not necessarily. Putting too much emphasis on being happy can make you blue, according to a recent study in the journal *Emotion*. Researchers asked a group of people to what extent they agreed with the statement “Feeling happy is extremely important to me.” Then they asked subjects to keep a diary of stressful events and record their feelings. The researchers found that the people who said achieving happiness was very important were also more likely to feel lonely during times of stress. “It’s possible, even with happiness, that you can overdo it and become too compulsive about being happy or obsessive about how happy you are or aren’t,” says Linden. That’s when social expectations to keep a positive attitude can backfire, suggests a 2012 Australian study.

## MYTH #4

### Having more choices makes us happier.

**MYTHBUSTER:** If you’ve ever felt overwhelmed by the selection of products on Amazon, you’ve experienced what researcher Barry Schwartz calls “choice overload,” which can exhaust us, make us unhappy, and cause us to choose not to decide. Case in point: One study looked at employees’ behavior when they were offered a variety of 401(k) funds in which to put their contributions. Employees were least likely to participate in plans with the most investment fund options and more likely to go with the ones that had only a handful of choices available. The threshold number that turns you from gloom to glee? Three to five options is your happy place, says Linden.



**MYTH #5**  
**Social media users with**  
**a large number of “friends”**  
**are happier than those who**  
**don’t use social media.**

**MYTHBUSTER:** Comparing how wonderful everyone else's life appears on Facebook with your seemingly less-than-perfect existence can really bum you out, says researcher Morten Tromholt of the University of Copenhagen in Denmark. His team analyzed two groups of frequent Facebook users. One took a 1-week hiatus from the social networking website, while the other was free to keep checking posts. The group that abstained from Facebook reported feeling happier and less stressed than the control group.

# Problem Solved Bad Breath

9 solutions  
that work

BY RICHARD LALIBERTE

**M**ost bad breath is caused by an overgrowth of anaerobic bacteria (strains that don't need oxygen to survive) in saliva that produce foul-smelling, sulfurous compounds. The bacteria—which coat the mouth, teeth, and tongue—release the compounds as they feed on food residue. Postnasal drip or infections such as sinusitis can also make your breath reek from bacteria, as can dry mouth, which leaves less saliva to wash away the food particles bacteria feed on and less moisture to mask odor. If you suspect your breath is a little less than fresh, lick the back

**50**

Approximate percentage of people with halitosis, the medical term for bad breath

of your hand, then smell it: If it has an odor, you know your breath does, too. The following steps can help.



## PREVENTIVE MEASURES

**1**

### Brushing and flossing

Brush at least twice a day, and floss once daily. Don't be skimpy with floss: "Use a long strand and unwind it from one finger to another as you move from tooth to tooth to avoid taking bacteria out of one space and depositing it in another," says Nico Geurs, chair of periodontology at the University of Birmingham School of Dentistry.

**2**

### Tongue cleaning

Use a toothbrush or tongue cleaner to scrape your tongue every time you brush, especially at the back, where bacteria are most likely to accumulate due to the rougher surface and lack of cleansing friction from contact with other mouth parts. One study found that tongue cleaning reduces sulfur compounds by more than a third.

**3**

### Avoiding certain foods

In addition to avoiding onions and garlic, steer clear of sugar to prevent bad breath. "Snacking on sweets provides waves of sugar that cause spikes in bacterial growth," says Salvador Nares, director of periodontics research and head of the department of periodontics at the University of Illinois at Chicago College of Dentistry.





## HOME REMEDIES

**1**

### Water

Saliva contains bacteria, but it also helps wash bacteria from the mouth. A dry mouth lets offensive microbes stick around, giving them more opportunity to release malodorous compounds. Sip water throughout the day to maintain saliva flow; this is especially important for older adults, as mouths tend to get drier with age.

**2**

### New toothbrush

Bristles become less effective at sweeping away food residue and bacteria over time, so replace your toothbrush every 2 to 3 months. And never share your toothbrush or use someone else's. This can introduce bacteria into your mouth, leading to bad breath, as well as gum disease and other dental problems.

**3**

### Rinses

Unlike many mouthwashes, OTC dry-mouth rinses help fight bad breath by moistening the mouth via ingredients like hydroxyethylcellulose and glycerin. Some also contain agents such as chlorine dioxide and zinc salts to reduce odor. Avoid rinses containing mouth-drying alcohol, says Cheryl Mora, a dentist in Vernon Hills, IL.



## MEDICAL TREATMENTS

**1**

### Prescription management

Dry mouth is a side effect of more than 400 prescription and OTC drugs, including some antidepressants, antihistamines, muscle relaxants, and blood pressure meds. Ask your doctor if you can safely eliminate any of your prescriptions, reduce the dosage, or switch to a similar drug less likely to cause dry mouth.

**2**

### Routine cleaning

No matter how faithful you are with brushing and flossing, bacteria can still build up and form tartar, hardened deposits that can be removed only with a professional cleaning. See your dentist—who will also check for signs of gum disease, a potentially more serious source of foul breath—at least once a year.

**3**

### Periodontal treatment

When gums recede—due to underlying bone loss, aggressive brushing, or an infection below the gumline—pockets form where bacteria can accumulate, causing bad breath. Deep cleaning by a dentist can help. If gum disease is advanced, your dentist may recommend a periodontist for specialized treatment.

# Handmade Holiday

Dr. Tieraona Low Dog shares her best recipes for pampering presents.

**E**VERY YEAR as I gather with my family for our holiday celebration, I'm reminded of what the season really means. Our table hosts vegetarians and bacon lovers, night owls and early birds, and people of all political stripes. I've learned that the secret to enjoying the holidays is living the essence of the season and giving the gifts of grace and unconditional love.

One way to do that is by making natural gifts for the special people in your life. I enjoy giving an assortment of products to encourage my family and friends to indulge in healthy pampering.

My Lavender-Honey Sugar Scrub is a wonderful exfoliator, and it feels divine. Lavender is known for its healing properties, and the relaxing scent makes this scrub perfect to use before bedtime to encourage sleep.

Calendula blossoms soothe irritated skin, which is why they're the main ingredient in my Calendula Massage Oil. I use dried flowers that I harvest from my garden in the summertime, but you can also buy them year-round. Massaging a thin layer of this oil into skin after bathing helps seal in moisture.

I also enjoy making a gift recipients can use to add the scents of the season to their home: Spicy Citrus Air Freshener, with orange, cinnamon, and clove essential oils.

And, finally, peppermint is for more than candy canes! The bracing scent of my Peppermint Foaming Soap can be energizing after a day spent in holiday crowds.

Package these gifts individually in jars with ribbons, or group them together in a pretty basket. Recipes for all the gifts appear on the next three pages.



**Tieraona Low Dog, MD,** is a physician, educator, author, and expert in the fields of integrative medicine and women's health.



## LAVENDER-HONEY SUGAR SCRUB

In large bowl, combine  $\frac{1}{2}$  cup organic sunflower seed oil and 2 Tbsp raw organic honey. Slowly add 1 cup organic cane sugar and mix well. Fold in 24 drops of lavender essential oil and  $\frac{1}{2}$  tsp pure vanilla extract. Add 1 Tbsp dried lavender flowers for color. Store in glass container. Use once or twice weekly in the shower.



## CALENDULA MASSAGE OIL

Fill 16 oz jar two-thirds full with dried calendula flowers and cover with organic sunflower seed oil. Seal jar and steep in a warm place for 2 to 4 weeks. Strain, bottle, and store oil in a cool, dark place until you're ready to gift it. You can also add your favorite essential oil. Use 2 or 3 drops per ounce of strained calendula oil.





## SPICY CITRUS AIR FRESHENER

Combine 2 oz water and 2 oz vodka in 4 oz glass spray bottle. (The alcohol is necessary to “fix,” or hold, the essential oils.) Add 12 drops of orange essential oil, 6 drops of cinnamon essential oil, and 6 drops of clove essential oil. Shake well and mist around the room once or twice a day.

## PEPPERMINT FOAMING SOAP

Put 1 cup water and  $\frac{1}{3}$  cup liquid castile soap in bottle with a foaming pump. (Liquid castile soap can be purchased online and in many health food stores. I love the classic Dr. Bronner’s organic castile soap.) Add 5 drops of peppermint essential oil. If you don’t want the soap to foam, use a soap bottle with a regular pump, but make sure to shake it before using.

# THE BEST MEDICAL BREAK- THROUGHS THIS YEAR

*20 LIFE-CHANGING INNOVATIONS  
FOR CANCER, DEPRESSION,  
HEART DISEASE, AND MORE*

BY ROCHELLE SHARPE  
ILLUSTRATIONS BY HARRY CAMPBELL

Research scientists around the world have been working on new medical treatments that will improve millions of lives. We've chosen 20 of the most fascinating and important to showcase here.

An illustration of a human hand and forearm against a teal background. The skin is white, and the hand is open with fingers spread. Overlaid on the hand are various scientific symbols: orange and blue circuit lines, small square chips (one orange, one blue), and DNA double helix structures. The lines and symbols are distributed across the palm, wrist, and forearm, suggesting a network of regenerative technology.

## 1. REGENERATING BODY PARTS

Regenerative medicine—a branch of science working to find ways to regrow or replace damaged tissue and organs—took a huge leap forward in 2017, when Ohio State University researchers announced the development of a new technology called tissue nanotransfection.

TNT technology, which is embedded in a tiny chip, can reprogram skin cells to repair organs and blood vessels. With certain kinds of DNA, “we can convert one kind of cell into other types,” says Jim Lee, an Ohio State professor and coleader of the project.

The noninvasive procedure involves placing a postage stamp-size chip on the skin and sending a small electric current through it.

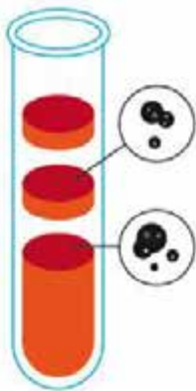
The process delivers DNA vectors into the body in less than a second. So far, the research has focused only on animals, growing blood vessels in an injured mouse leg in a week and generating nerve cells that helped mice recover from strokes. Clinical trials in humans are scheduled to begin in 2018.

## 2. A SMARTPHONE HEART MONITOR

Keeping a watch on your heart has gotten more convenient and sophisticated. People can get medical-grade electrocardiograms using a small device that attaches to the back of a smartphone, then receive monthly analyses of their results and have the reports sent directly to their doctors.

And soon, pending FDA clearance, consumers will be able to get EKGs simply by placing a finger on the band of an Apple Watch.

Vic Gundotra, CEO of AliveCor, which produces the monitors, says the company is also collaborating with Mayo Clinic to develop an artificial intelligence system that can predict from an EKG if a patient has too much or too little potassium in the blood and is at risk of sudden death.



## 3. LIQUID BIOPSIES

Scientists announced major steps forward this year in the development of “liquid biopsies,” methods for analyzing blood samples to find evidence of cancer. Currently being used to detect changes in people with metastatic cancer, liquid biopsies could eventually help diagnose new cancers early, when they’re most treatable.

“Finding tumor DNA in the blood is like looking for a needle in a haystack,” says Pedram Razavi, an oncologist at Memorial Sloan Kettering Cancer Center in New York City who led a recent study. The latest tests in development are so comprehensive that doctors don’t even need to know what genetic mutation they’re looking for.



## 4. A FAST-ACTING DEPRESSION DRUG

Nearly one-fifth of people suffering from depression get little, if any, relief from prescription drugs. But researchers have discovered that treatment-resistant depression can sometimes be lifted in a matter of hours with ketamine, an intravenous anesthesia drug.

"This could be a bigger game changer than Prozac," says Anthony Rothschild, a psychiatrist at the University of Massachusetts Medical School who is studying a nasal-spray version of the drug. Ketamine could be the first drug in 50 years found to affect various neurological pathways to alleviate depression—and it may radically change scientific understanding of how depression works.

Ketamine does have downsides. The powerful effects last only 7 to 10 days, and it's unclear whether repeated infusions will be safe. The medication can also elevate blood pressure and sometimes trigger hallucinations. Researchers are studying similar drugs that may not have such dire side effects, and some hope a new medicine will be available in the next few years. "It looks more promising every month," Rothschild says.

## 5. EARLIER PANCREATIC CANCER DETECTION

The third-leading cause of cancer death, pancreatic cancer is especially lethal because it's usually detected only after malignant tumors have spread. But researchers have made a discovery that could finally make early detection easier.

By reverse engineering late-stage cancer cells to their stem-cell state, researchers identified two key proteins that appear in the blood of patients when they initially develop the disease.

"It's promising, but we have more work to do," says Ken Zaret, director of the University of Pennsylvania's Institute for Regenerative Medicine, who conducted the work with Gloria Petersen of Mayo Clinic. If all goes well, the test could be ready within a few years for people at high risk of contracting the disease.

## 6. SURGICAL SUPERGLUE

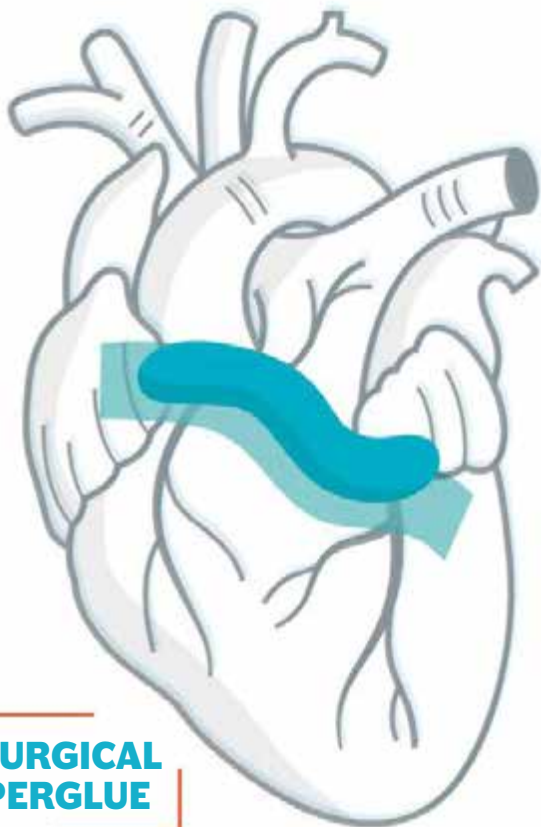
A humble slug has inspired scientists to develop a new superglue that could be an alternative to surgical stitches and staples.

Jianyu Li, now an assistant professor at McGill University in Montreal, helped create the new adhesive after studying the mucus secreted by slugs when they're startled. Li says the hydrogel, made of biomaterials that replicate the mucus, is strong, non-toxic, flexible, and able to

stick to wet surfaces—even those covered in blood.

"This could be the next generation of bandages and could also be used for wound healing," he says.

The material has been tested in animals and was able to seal a hole in a pig's heart. Next, Li, who developed the glue with colleagues at Harvard's Wyss Institute for Biologically Inspired Engineering, hopes to make it biodegradable so it dissolves after use.



## 7. DEEP BRAIN STIMULATION FOR STROKES

Researchers at Cleveland Clinic conducted the first-ever deep brain stimulation therapy in a stroke patient this year, and the patient regained more of her motor function than expected.

The therapy, originally scheduled to last 4 months, is ongoing because the patient continues to make progress, says Andre Machado, a neurosurgeon and chair of the clinic's Neurological Institute, which is conducting the experiment.

"We're encouraged," Machado says, adding that there are "strong implications" the therapy will be

useful in helping people recover physical function after a stroke leaves them paralyzed or faced with other disabilities. Nearly half of the 5.5 million Americans who have had strokes are unable to perform daily activities without assistance.

Deep brain stimulation, typically used in Parkinson's disease patients, can foster new neural connections and improve plasticity in the brains of stroke patients. It also may boost the effects of standard physical therapy, says Machado, who is currently working with another patient and has plans to conduct the therapy in 10 more stroke victims soon.

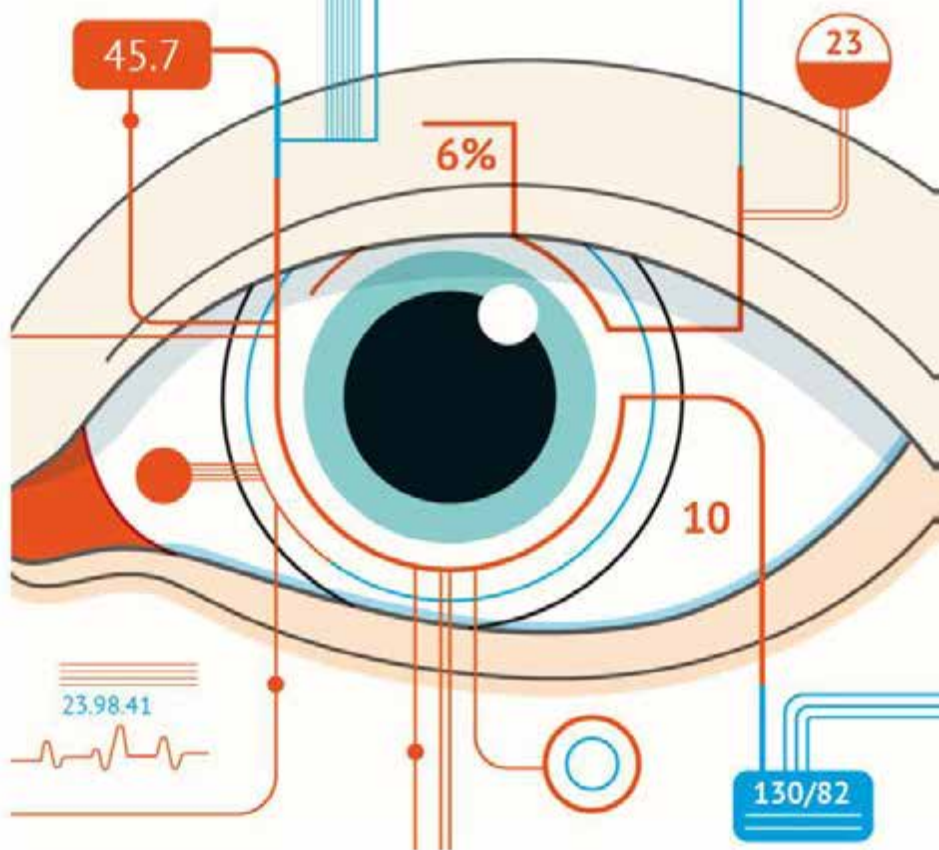
## 8. 3-D PRINTED SPINAL IMPLANTS

Patients suffering from spinal deformities began getting more high-tech help this year, thanks to new 3-D printed implants made from titanium.

Several of these implants are made from titanium powder and designed with rough surfaces and porous structures, which allows them to integrate more quickly and completely into the body. "3-D printing technology is designed to allow bone to grow onto and through the implant," says Eric Major, president and CEO of K2M, the manufacturer of two 3-D printed implants cleared by the FDA this year.

One of the K2M implants can stabilize the spine where portions of the vertebrae were removed. Another, created by SI Bone, can be implanted in patients with disorders of their sacroiliac joint, which is the cause of almost one-quarter of all chronic lower-back pain.





## 9. CONTACT LENSES FOR MORE THAN VISION

Scientists at Oregon State University have developed transparent sensors that can turn contact lenses into sophisticated health monitors, measuring levels of blood sugar, uric acid, and other substances.

"We believe we could integrate more than 100 sensors into the lenses," says Gregory Herman, the chemical engineering professor spearheading the research.

Blood glucose monitoring through contacts could help people with diabetes, who must repeatedly prick their fingers to track blood sugar. The contacts might also be able to detect cancer early, track stress hormones, or even improve athletic performance, Herman says. If the research continues to go well, the contacts could reach the market within 5 years.

## 10. NO-DRILL TOOTH REPAIR

British researchers announced a novel technique that could make dental fillings obsolete. Their work shows that teeth can repair themselves naturally, using stem cells to stimulate the growth of dental tissue.

Scientists at Dental Institute at King's College London found that small amounts of tideglusib, an Alzheimer's drug currently in clinical trials, promote the growth of dentin (the material under enamel that can repair teeth) and jump-start tooth regeneration.

In an experiment in mice, researchers soaked a small biodegradable sponge with the drug, then put it in the tooth pulp, where stem cells reside. New dentin began to grow. Within weeks, the sponge decomposed, and in its place was a perfectly restored tooth.

## 11. NEW DRUG FOR OVARIAN AND BREAST CANCERS

A new type of drug, called a PARP inhibitor, can sometimes delay progression of ovarian cancer for up to 2 years and may also be effective against breast cancer. Three of these drugs are on the market, and all are designed to ensure that cancer cells damaged by chemotherapy can't repair themselves. Prior to the development of PARP inhibitors, no new ovarian cancer drug had been approved in the US since 2006.

Scientists initially believed that the medications would work only in women who carry *BRCA1* and *BRCA2* gene mutations, but now it looks as if the drugs could help a much larger group of cancer sufferers. Zejula, the most recent PARP inhibitor, was approved this year for all relevant ovarian cancer patients, not just those with the genetic mutations.

## 12. PERSONAL ROBOTS



The nation's first personal health care robots moved into patients' homes this year, helping people manage such chronic illnesses as rheumatoid arthritis, late-stage kidney disease, and congestive heart failure.

Deep inside Mabu, one of the first of these robots, are sophisticated electronics that allow it to monitor medication use, motivate patients to follow doctors' orders, and connect people with doctors or pharmacists when necessary.

The goal is to increase support between health care visits, which could improve patient compliance and reduce hospital readmissions, says Cory Kidd, CEO of Catalia Health, the creator of Mabu.



### 13. ANTI-INFLAMMATORY CARDIAC CARE

Researchers showed a clear link between heart disease and inflammation for the first time this year, raising the possibility that anti-inflammatory drugs could become a key treatment for heart disease.

"This has far-reaching implications," says Paul Ridker, a Harvard Medical School professor who oversaw the landmark study. Given that half of heart attacks occur in people who do not have high cholesterol, the findings suggest that doctors can help high-risk populations "by leveraging an entirely new way to treat patients—targeting inflammation," he says.

The study, which followed more than 10,000 heart attack survivors, showed that anti-inflammatory drug injections reduce the chances of getting a second heart attack or stroke by 15%. The patients, who received injections of the drug canakinumab four times a year, also had a significant reduction in deaths from cancer, especially lung cancer. Scientists are studying other anti-inflammatory drugs to better understand how they work.

Ridker predicts that cardiologists may soon be able to tailor heart disease treatments to different groups of patients, distinguishing those at risk due to high cholesterol from those at risk due to inflammation.

### 14. DNA EDITS TO ELIMINATE DISEASE

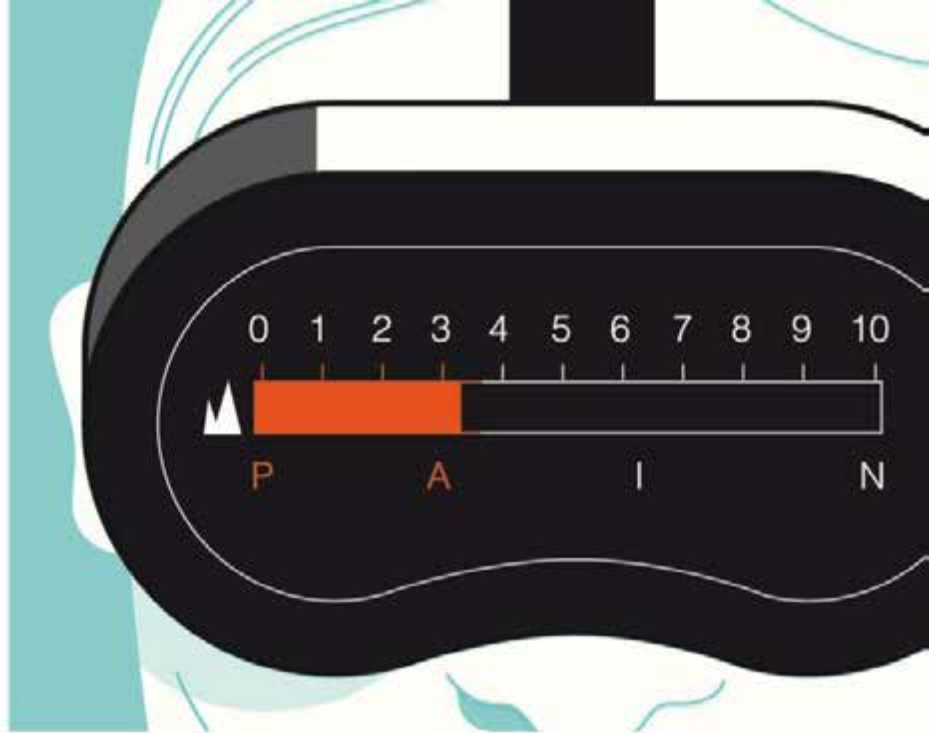
Scientists successfully edited DNA in human embryos for the first time this year, removing a genetic mutation that causes sudden death.

The achievement raises the possibility that families could soon prevent their children and future descendants from developing such debilitating or deadly inherited diseases as Huntington's, Tay-Sachs, and cystic fibrosis.

"This is proof of concept," says Paula Amato, an associate professor of obstetrics and gynecology at Oregon Health and Science University, who was part of the team that conducted the experiment.

The researchers used the new CRISPR-Cas9 gene-editing technology to do their work, and now they'll try to repeat the experiment to better understand how the gene is being corrected, Amato says. But because of a federal ban on clinical trials that involve genetically modified embryos, they won't be able to implant fertilized eggs into women in the US.

Some worry that gene editing could be used to create children with traits like superior intelligence or athletic prowess, but that isn't technically feasible, says Amato. As of now, "you can't replace one gene with another gene," she says. "Embryos don't like that."



## 15. VIRTUAL REALITY THAT GIVES REAL PAIN RELIEF

Virtual reality therapy showed enormous promise this year, with studies suggesting that these high-tech treatments could reduce pain as well as potent drugs do. When patients at Cedars-Sinai Hospital in Los Angeles watched uplifting videos through virtual reality goggles, their pain levels dropped by 24%, says Brennan Spiegel, a physician and director of the hospital's health services research.

"This works as well as—or better than—opioids," says Spiegel, explaining that the therapy essentially overwhelms the brain with positive experiences, distracting it from the pain. Those with the most severe pain got the most relief, he says.

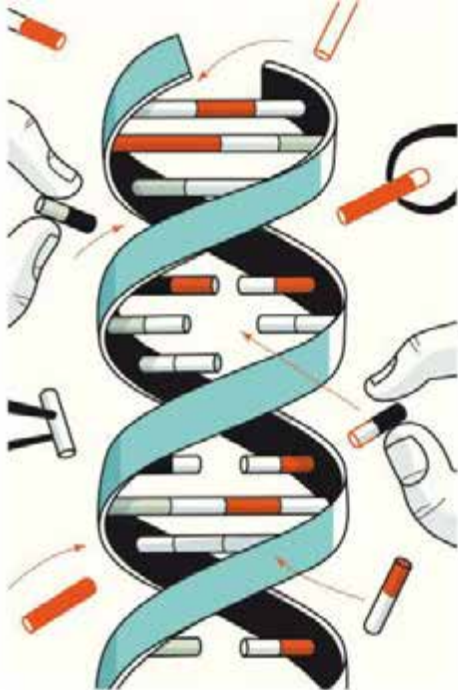
A virtual reality clinic is in the works, and Spiegel predicts that a new kind of medical professional will soon emerge: a virtual therapist, who will assess patients and prescribe specific virtual reality experiences, which can range from sitting on a beach to flying over Icelandic fjords. "This is the beginning of a new medical field," he says.

## 16. PIG ORGAN TRANSPLANTS FOR PEOPLE

Scientists created designer piglets this year, genetically modifying them so their organs could be more safely transplanted into humans. The development raises hopes that xenotransplantation, the process of transferring organs from one species to another, could finally become a reality.

Scientists have tried—and failed—for more than a century to perform such surgeries, which could save countless lives because of the shortage of human organs available for transplant. More than 116,000 people are currently on waiting lists.

The piglets were created by eGenesis, a company that used the new high-tech gene-editing tool CRISPR to eliminate more than 2 dozen copies of pig genes that could produce dangerous viruses in humans.



## 17. GROUNDBREAKING GENE THERAPY

Offering a new approach to life-threatening diseases, gene therapy became available in the United States this year for the first time when the FDA approved Kymriah to treat children and young adults whose acute lymphoblastic leukemia doesn't respond to chemotherapy. While the treatment will likely help only about 600 patients a year, the approval ushered in what the FDA commissioner described as "a frontier in medical innovation."

This type of treatment, called CAR T-cell therapy, customizes a drug for each patient, collecting each person's immune cells and then genetically modifying them to kill cancer cells. "It is, hopefully, a long-lasting or even permanent living treatment within the patient," says Len Lichtenfeld, deputy chief medical officer for the American Cancer Society.

## 18. AN ANTI-AGING DRUG

Scientists discovered clues to the aging process this year, raising hopes that an anti-aging drug could reach the market within 5 years.

The researchers identified a compound called NAD that cells use to repair damaged DNA. NAD declines with age, says David Sinclair, a Harvard Medical School professor who helped lead the research.

In animal experiments, he and his colleagues found they could raise animals' NAD levels by feeding them a related compound called NMN.

The scientists are studying whether NMN is safe for people before testing its effectiveness. "NAD is a molecule found in all life," says Sinclair, adding that he's confident the compound will work in people, too.

## 19. VOICE ANALYSIS TO DETECT DISEASE

Patients may one day be able to discover their health problems by uttering a few words into a phone. Several companies are working feverishly in this futuristic arena, examining how subtle voice characteristics can detect physical and mental illnesses.

Last year, a study conducted by Mayo Clinic with an Israeli company found more than a dozen voice features associated with heart disease—including one associated with a 19-fold higher likelihood of heart ailments.

Now another company, Sonde Health, is refining its software to predict depression, examining millisecond-long vocal changes that humans can't perceive. "Subtle changes in how we sound can be measured to reflect the underlying health of the nervous, muscle, and respiratory systems," says Jim Harper, Sonde Health's chief operating officer and co-founder, adding that certain sounds become elongated when someone is depressed.

Voice analysis would make it easier for people to monitor their own health, Harper says, alerting them to serious problems they might otherwise ignore. One day, he says, people might be able to speak to their digital assistants and be warned that their voice shows early signs of depression, then receive options for getting appropriate help.

## 20. A PLANT-INSPIRED HEART SAVER

When heart attacks occur, doctors try to get blood flowing through clogged arteries as quickly as possible, since heart cells die if they're deprived of oxygen. But Joseph Woo, chair of cardiothoracic surgery at Stanford University, wanted to find another way to deliver oxygen to failing hearts.

In his research, Woo replicated photosynthesis, the process in which plants use

sunlight to convert carbon dioxide into oxygen. He injected bacteria that use photosynthesis similarly to the way plants do into rats with failing hearts, then shone a light on the microbes. The rodents that underwent the therapy had oxygen levels 25 times higher than those that didn't.

The method could eventually transform medical care by creating a new way to supply oxygen to damaged tissues. "It's still in early stages," says Woo. "That's when it's most exciting."



# Treating *the* Common Cold

We asked health experts for their best remedies for pesky respiratory viruses.

BY SANDRA KNISPEL

ILLUSTRATIONS BY ALICE POTTER

**T**HERE'S STILL NO CURE for the common cold, and every year millions of Americans catch at least one. In fact, the Centers for Disease Control and Prevention estimates that adults get an average of two or three colds a year. Preventive steps, like hand washing, can help ward off a cold, but it has to run its course once it takes hold. Rest and fluids are the standard treatment, but other measures can help you feel comfortable while waiting. We asked a variety of health professionals for their advice.





#### THE NUTRITIONIST

### **Spicy hot tea**

**66** Try a warm cup of tea with spices such as cardamom, cinnamon, cloves, and ginger, which can help loosen your congestion. I also recommend citrus foods to help the immune system."

—**Susan Lang-Saponara**,  
registered dietitian  
with ShopRite in  
Flemington, NJ



#### THE PEDIATRICIAN

### **Honey**

**66** A teaspoon of honey, an antioxidant, can support the immune system and also act as a cough suppressant by soothing the back of the throat and breaking up cough-inducing mucus."

—**Myriam Bauer**,  
pediatrician at  
Elmwood Pediatric  
Group in Pittsford  
and Rochester, NY

THE HOLISTIC  
INTERNIST**Homemade  
chicken  
soup**

**66** Chicken soup contains important anti-inflammatory compounds that may help quell some cold symptoms. Chicken has the amino acid cysteine, which can thin mucus; some studies have shown garlic and onions to have an antiviral effect; and cooking down chicken bones to make broth releases compounds that may help you kick the cold faster by reducing inflammation. Bonus: Warm liquids can help decongest the nose and sinuses."

—**John Principe**, internist and founder of WellBeingMD, a wellness-oriented practice in Palos Heights, IL

## LATEST COLD RESEARCH

**DO ZINC LOZENGES HELP?**

**!** A new study published in *JSRM Open* shows that zinc shortens the length of the common cold. On average, taking zinc lozenges cut the life span of a cold by 33%. Harri Hemilä, the study author and a researcher at

the University of Helsinki in Finland, says the optimal dose to treat a cold is 80 to 100 mg a day. Various brands of zinc lozenges contain different amounts of the mineral, so read the label to determine how much to take.

## THE YOGI

**Stretching**

**66** Yoga provides both physical and mental benefits. It helps strengthen and lengthen stiff muscles, boosts the immune system, and assists in moving and cleansing the lymphatic system, which is responsible for circulating infection-fighting white blood cells throughout the body. Relaxing the mind allows the parasympathetic nervous system to keep hormones in balance, reducing inflammation."

—**Mary Solomon**, Ayurvedic wellness counselor and yoga instructor in Oxford, MS



THIS PAGE: THE GOOD BRIGADE/OFFSET. OPPOSITE PAGE: SUSAN BROOKS-DAMMANN/OFFSET



#### THE OSTEOPATHIC PHYSICIAN

### **Horseradish**

“Open a bottle of horseradish, position your nose about 2 inches from the opening, then take a sniff. Horseradish contains ingredients that help thin mucus, unclog a stuffy nose, and open

nasal passages for easier breathing.”

—**Rob Danoff**, director of the family practice/emergency medicine residency program at Aria Jefferson Health System in Philadelphia



#### THE INTERNIST

### **OTC pain relievers and rest**

“Alternate between taking acetaminophen and ibuprofen every 4 to 6 hours for low-grade fever and chills, and get plenty of rest.”

—**Nitin S. Damle**, managing partner at South County Internal Medicine and clinical associate professor of medicine at the Alpert Medical School of Brown University



#### THE MASSAGE THERAPIST

### **Essential oils and a nose massage**

“A nasal massage can stimulate sinus drainage and white blood cell production, which helps fight infection. Apply gentle pressure to both sides of nose, right above the midpoint; hold for 5 to 10 seconds, then rub in light circles. A blend of essential oils may also aid decongestion and healing. Dilute eucalyptus, lavender, rosemary, or sage oil in body lotion or in a carrier oil like almond or olive. Apply it to the sinus area, base of the neck, and chest.”

—**Holly Burton**, licensed massage therapist and founder of Walnut Beach Wellness Center in Milford, CT



THE NATUROPATHIC  
DOCTOR**Elderberry  
and other  
herbs**

“Elderberry—available as an extract in capsule, syrup, or lozenge form—has an antiviral effect. Andrographis, an herb used in traditional Ayurvedic practices, may give the immune system a boost. Study results on echinacea are mixed, but the flowering herb, commonly sold as a supplement or tea, is touted as having immune-supporting properties that may shorten the duration and severity of a cold if taken at the first sign of trouble.”

—*Jaclyn Chasse, vice president of scientific affairs at Emerson Ecologics, a nutritional supplement supplier*



[prevention.com/swell](http://prevention.com/swell)

**S'WELL BOTTLE**

Stay hydrated with a beautifully designed bottle that keeps liquids hot or cold (\$35).

THE EAR, NOSE, AND THROAT SPECIALIST

**Nasal saline irrigation**

“I’m a huge believer in nasal saline irrigations like NeilMed Sinus Rinse and Xlear Sinus Care Rinse. They can flush away mucus and viruses, decrease inflammation of the nasal lining, and help stop some of the coughing that’s caused by postnasal drip.”

—*Dale Amanda Tylor, general and pediatric otolaryngologist at Washington Township Medical Foundation in Fremont, CA*



## WARNING

### READ LABELS CAREFULLY



"Many OTC cold medicines contain acetaminophen, and if you take multiple products, you may get too much, potentially triggering dangerous side effects," says Cindy Harris, a nurse practitioner and education specialist for the American Association of Nurse Practitioners in Austin, TX. And avoid medications that treat symptoms you don't have: "If you aren't coughing, don't take something with a cough suppressant."



## THE LICENSED ACUPUNCTURIST

### ***Stimulating the right points***

**“**The most commonly used acupuncture points for a cold are a point on the hand called LI 4 [for headache and congestion], a point on the wrist called LU 7 [to relieve chest congestion], and a point just under the nose called LI 20 [to alleviate nasal congestion].”

—**Jamie Davis**, administrative director of the American Association of Acupuncture and Oriental Medicine



## THE PHARMACIST

### ***Decongestants***

**“**The medication that will probably help most is a decongestant—taken orally or as a nasal spray. Look for one containing pseudoephedrine, which is more easily absorbed by the body than phenylephrine, another common type. If you don't see the products on the shelf, ask a pharmacist; these drugs are often stored behind the counter. Decongestants carry potentially serious side effects like increased blood pressure, so talk with your doctor before taking one.”

—**Amanda Howard-Thompson**, clinical pharmacy specialist at Veterans Affairs Medical Center in Memphis





**SPECIAL REPORT**

# **FAKE** *Health* **NEWS**

**Dozens of websites peddle false information on diseases, treatments, weight loss plans, and more, hoping to profit from it. Here's what you need to know.**

**BY PETER FLAX**

**ILLUSTRATIONS BY JUSTIN RENTERIA**



brain

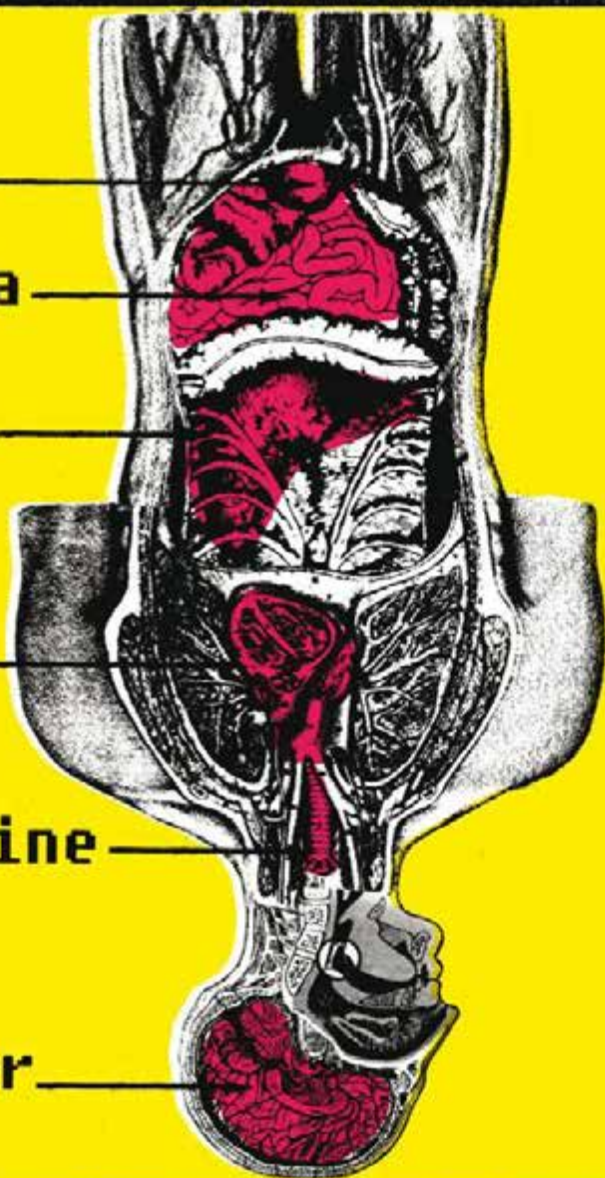
trachea

heart

liver

small  
intestine

bladder



# Instant cancer cure.

**T**he trip down the rabbit hole begins innocently enough with a video on Facebook. In the engaging 3-minute, 40-second clip, a bariatric physician named Amy Lee explains with unusual clarity why people looking to shed pounds should limit their intake of salt and sugar, eat more whole foods, and combine good fats with fiber. It's the kind of smart- and helpful-sounding advice that people tend to share, which probably helps explain why the video already has been viewed 120,000 times on Facebook.

The first hint of intrigue comes with a click on the accompanying link, which leads to an infomercial for a supplement maker named Nucific, promoting a probiotic product called Bio-X4, which promises to boost metabolism, reduce gas and bloating after eating, and control food cravings. There is no mention of pills in the Facebook video, but this page links to an offer for a 30-day supply of Bio-X4, which Lee created, for \$99 (a discounted 180-day supply has a price

tag of \$487.08), as well as glowing customer reviews. Another page features a professionally produced 46-minute documentary detailing the efficacy of Bio-X4, backed by a list of journal citations. Given the polished quality of the video, the apparent authority of Lee (who, according to her LinkedIn profile, earned her MD at the University of Illinois and did a fellowship in clinical nutrition at UCLA), and the supposed merits of the product, a careful consumer might then seek confirmation of Bio-X4's benefits from a real authority—you know, Google.

A search turns up numerous reviews on sites—with names like *dietpillswatchdog.com*, *healthwikinews.com*, and *supplementpolice.com*—that seem focused on consumer advocacy. But there's an odd sameness to the reviews, most of which are written in similar conversational and unpolished language. Some are cautiously positive, while others, like those on *dietpillswatchdog.com*, criticize Bio-X4 and lead the consumer to another site selling a different line of weight loss pills.



# Search

**J**ack and Gayle (who asked us not to use their last name) stumbled into this disorienting online ecosystem when Jack opened an e-mail from Nucific in September. It appeared to be a note from Lee containing a link to a groundbreaking and controversial article on fats that was part of a series of articles titled “The Food Truth Letters.”

Although Jack, 63, has no idea how Nucific obtained his e-mail address, he would receive two more dispatches from Lee in the next week, both linking to articles—one about integrating exercise into your life and another about sugar. The articles were engaging and informative, and though none of them made a hard sell for Nucific’s products, the marketing push now had Jack’s full attention. Forty pounds overweight and interested in slimming down quickly, Jack clicked a link. One thing led to another.

Gayle, 64, had never heard of Bio-X4 until she opened a package a week later and found a big bottle of pills and a receipt for a \$106 purchase. “Jack didn’t tell me anything about it,” she says. “I

was so upset. He was scheduled to get a hip replacement in a week.”

Jack thought the supplement might be useful—both to help him shed pounds and to help Gayle deal with chronic stomach issues. “But I told him there was no way he was taking it before his procedure,” she says. “And I told him we needed to get more information.”

That’s because, while there’s plenty to read about Bio-X4, all the information resides within a certain bubble. There are no medical studies examining the weight loss claims, no credentialed medical experts (aside from Lee) weighing in on the ingredients. Few major retailers or pharmacy chains are selling it. No well-known health sites have reviewed it. And yet on social media and in this vibrant online subculture, Bio-X4 seems like a big deal.

**U**nproven, expensive, and slickly marketed weight loss supplements have been around since the days of roving snake-oil salesmen. “People have been creating dubious news, and arguing about how to detect



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it, for centuries,” says Brian Southwell, director of science in the public sphere at the Center for Communication Science at RTI International, tracing the problem back to the rise of so-called yellow journalism in the 19th century, when partisan newspapers published editorial content not always rooted in facts.

But technology has changed the game. As Southwell observes, social media enables sensational stories to spread fast and furiously. In the past year, the term *fake news* has flooded the national consciousness, but most of the references relate to political content. Little has been written about the proliferation of health information that is neither credible nor well regulated.

“The circulation of really hyperbolic and misleading health and medical information is one of the biggest problems in the fake news era,” says Melissa Zimdars, an assistant professor of communications at Merrimack College and a leading scholar on the fake-news phenomenon. “Bad health information can actually manipulate people into making bad medical decisions.”

Southwell points out that unreliable health news and advice can cause the worst kind of harm. “It can have dire consequences if followed, both for individuals and for whole communities,” he says. As an example, he points to poorly substantiated stories written to dissuade people from vaccinating their children, despite advice to the contrary from every major medical organization. This kind of misinformation has been linked

to breaches in many communities’ immunity to diseases such as measles and whooping cough, leading to new outbreaks. And in a 2016 case in China that earned global attention, a 21-year-old college student with a rare form of cancer clicked on a promoted link on the nation’s top search engine that led him to pursue an expensive and controversial treatment. He subsequently died.

When asked to assess the scope of the problem, Zimdars pauses. “It’s bad,” she says. “It’s really bad.”

**T**he fake-news forces that created scandals like Pizzagate are part of a national conversation, but the depth of the problem in health and wellness remains a public mystery.

Experts agree that almost all the untrustworthy online wellness advice is created and promoted with one or more of three goals in mind: to generate profits by selling products, to promote an agenda, or to make money by using sensationalized stories to generate traffic and sell advertising.

To see how that third category plays out, consider an article published in September 2016 on *healtheternally.com* with this attention-grabbing headline: “Scientists Find Root That Kills 98% of Cancer Cells in 48 Hours.” The story touted the cancer-fighting properties of dandelion root without citing any recent published studies and linking only to a 4-year-old news story about a biochemist who had received a grant to study the root. Despite the lack of substantiated evidence, the article,

## DON'T GET SCAMMED

How can you avoid fake health news? Four tips:

### READ THE FINE PRINT.

Many deceptive sites post disclaimers saying they're not providing medical advice, says Melissa Zimdars, an assistant professor of communications at Merrimack College. This may be an attempt to sidestep regulation and accountability.

### DON'T BE IMPRESSED BY A MILLION FACEBOOK VIEWS.

Companies that want a big audience can pay to get the word out, says Brian Southwell of RTI International. Videos that appear to go viral may have been promoted with ad dollars or paid viewers.

**FACT-CHECK IT.** See what *snopes.com* says. Ask yourself: Is the site reputable and familiar? Are facts attributed to an expert? If so, Google that person's credentials. Finally, is the site selling something you just read about? If so, proceed cautiously, Southwell says.

### REMEMBER THAT COST DOESN'T DENOTE QUALITY.

Market research shows that people see a high price as evidence that something works, says Eliseo Guallar, a Johns Hopkins medical professor. Savvy sales sites set their prices accordingly.

which has since been roundly dismissed by medical experts and fact-checking entities like *snopes.com*, was shared 1.4 million times on social media. That's a lot of traffic for a piece of questionable journalism that might encourage someone to abandon proven conventional treatments like chemotherapy.

"There's money to be made by garnering an audience," observes Southwell, editor of the soon-to-be-published book *Misinformation and Mass Audiences*. "But in other cases, these dubious stories are agenda driven, published by people or organizations that have an ax to grind."

**M**any of the stories in that latter category are rooted in an antiestablishment view that opposes pharmaceutical drugs, GMOs, vaccines, mass-produced foods, and such. There's nothing wrong with consumers considering alternative health approaches, but there's cause for concern when publishers exploit those consumers with misleading or false information.

The roster of fake-health-news perpetrators is largely made up of harmless, holistic-sounding, and seemingly interchangeable names—*naturalnews.com*, *healthnutnews.com*, *naturalblaze.com*—with no brand recognition and poor track records. Zimdars's list of top offenders includes *greenmedinfo.com*, which published a story breathlessly touting the health benefits of black cumin seed—citing ancient literature that called it a "remedy for everything

but death”—that got more than 140,000 shares on Facebook and Pinterest (and included a link to buy a 250 mL bottle of Panaseeda Black Cumin Oil for \$49.99).

The \$50 cumin oil hits the holy trifecta in fake health news: aggressively selling products while pushing an agenda and snagging traffic. Perhaps no one has perfected the model better than Alex Jones, the well-known conspiracy theorist whose site, *infowars.com*, averages about 9 million visitors a month, according to ComScore. Infowars has famously publicized stories claiming that 9/11, the Boston Marathon bombing, and Hurricane Katrina involved government conspiracies. In its bustling Health News section, the site typically

huge markup—consumers wind up buying something for \$40 that they could buy at a local store for 10 bucks. There’s a weird combination of ideology and financial imperatives aligning.”

**I**nfwars has also published poorly sourced articles and videos that assert that widespread overuse of pesticides, supported by the government and big corporations, has led to a worldwide crisis in which people lack vitamin B12. And as luck would have it, the Infowars store sells a product called Secret 12, which is basically liquid B12. Though the National Institutes of Health says that most Americans get plenty of B12 from their normal diets and

## ***Fake health sites sell products while pushing an agenda and snagging traffic.***

takes on the pharmaceutical industry, mainstream medicine, the nation’s water supply, and the food industry with strongly worded and poorly sourced “news” that often supports products sold in its store.

“The whole MO at Infowars is to scare people into believing that you can’t trust doctors, you can’t trust what’s in your water, you can’t even trust other manufacturers of supplements and health products,” says Zimdars. “And therefore you need to buy Infowars products, which have a

estimates that only between 1.5 and 15% of the population needs supplementation, Secret 12 offers 1,000% of the recommended daily intake. A 1 oz, 30-dose bottle costs \$24. Meanwhile, a quick search indicates that a bottle of liquid B12 twice the size costs less than \$8 on Amazon. And none of this factors in the potential health consequences of that megadose, which could be significant for people with type 1 or 2 diabetes or advanced kidney disease.

Policing this is tricky. While the Federal Communications Commission

## ***“Fixing the problem rests on the whims of says Southwell. “That’s a black box—***

aggressively patrols and enforces strict standards to prevent false claims from appearing on television (and fines rule breakers), no single regulatory agency has similar enforcement power over fake news on the web. “The FTC and FDA comment on marketing initiatives, but no agency regulates user-generated content,” Southwell says.

**F**or the time being, much of the burden falls on individual social media companies to regulate content. Facebook, which has roughly 183 million American users, has faced the most criticism regarding fake news, particularly after real news accounts described how Russian web robots and other shady players affected the 2016 presidential election. In response, the social media giant announced several initiatives to combat the problem—third-party fact-checking, allowing users to flag content they suspect is fake, and cracking down on financially motivated spam.

A Facebook spokesperson says the company has no specific policies related to fake health content but that the site is making progress on weeding out made-up stories. Told about the dandelion root story, the spokesperson said that such content would perform differently if it were published today.

“Our machines and people are getting better at identifying and down-ranking clickbait,” he says. “It’s part of the apparatus now.”

Still, it won’t be an easy problem to eradicate. “Facebook is trying hard to distinguish this kind of information and news, but there’s so much to sort out,” notes Miao Feng, a PhD candidate in the department of communications at the University of Illinois at Chicago who is studying how public health misinformation spreads through social media. “Even as a researcher, I often have to click links to see what’s real and what’s fake. You don’t know until you see the story. Sometimes it looks like real news, but then you get to the site and there’s dubious information or the publisher is selling health and wellness products.”

“Fixing the problem rests on the whims of the social media platforms,” says Southwell. “That’s a black box—a process in which too much is hidden.”

**A**s Jack and Gayle pondered what to do with their order of Bio-X4, Gayle decided to call a family friend for advice. Luckily for Gayle, her friend is Tod Cooperman, a physician who is the founder and president of ConsumerLab, one of the few reputable independent organizations that test health and nutrition products.



## ***the social media platforms," a process in which too much is hidden."***


"I honestly had never heard of Bio-X4 before," says Cooperman, who scrutinized the supplement's ingredient list, study citations, and alleged benefits.

He was not impressed. "It seems pretty clear that they didn't test the formula themselves, that they just borrowed evidence related to some of the ingredients blended in there," says Cooperman. "A well-labeled supplement would have more clarity. They're not being clear on how much of the individual ingredients are in the pills—*blend* is a wiggle word, and this is a blend of blends. In a real, high-quality probiotic, the manufacturer would identify the exact amount of each one in there. And usually there's more detail about the individual enzymes."

Cooperman has multiple concerns about the ingredients blended into Bio-X4, such as the evidence linking green-tea extracts to liver toxicity; studies suggesting that one of the ingredients, caralluma—a plant that allegedly tamps down appetite—has no effect on weight loss but can cause GI distress; and the dearth of research demonstrating that probiotics can help people lose weight. He also notes that consumers can buy a high-quality probiotic for as little as 20 cents a day. "I told her that I didn't think this was the best idea," he says of his conversation with Gayle.

Lee declined to be interviewed by *Prevention* but issued a statement defending the supplement: "I stand behind the Bio-X4 product and its ingredients. Bio-X4 has been third-party tested and approved to meet supplement content claims. I am pleased to provide a product to consumers that can help to improve their digestive health."

**E**ven more disapproving than Cooperman is Eliseo Guallar, a professor of epidemiology and medicine at Johns Hopkins Bloomberg School of Public Health. After studying the ingredient list and journal studies that Nucific and Lee cite to support Bio-X4's weight loss benefits, Guallar is unsparing in his assessment. "If these substances worked, there would be papers in major medical journals," he says, noting that probiotics have no proven impact on weight loss. "A weight loss supplement that did this would be an actual revolution, a major coup. There would be well-designed trials—you wouldn't learn about it on some company's website."

Such criticism is of little comfort to Gayle, staring at the bottle and receipt on her kitchen table. "I'm glad neither of us took the pills," she says. "But still, that's \$100 down the drain." 



"Our obstacles make us stronger," says Hankenson, here with her daughter at the Florida Aquarium in Tampa.

When a terrible  
accident left her  
daughter near death,  
Meridith Hankenson  
found a way to  
help her child—  
and herself.

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# Learning How to Pivot

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AS TOLD TO TRACY ROSS  
PHOTOGRAPHS BY CEDRIC ANGELES

# Almost 2 years ago, something unexpected and horrific happened

to my daughter and, by extension, me. It brought me to the threshold of despair but eventually opened my eyes to new possibilities. It also stirred a passion to share with other people what I learned.

February 19, 2016, had been a strange day filled with premonitions. I work from home as a talent agent for entertainers, and it was my busy season. At noon, I became inexplicably exhausted. I rarely nap, but I lay down on my bed and fell into a deep sleep. I woke 3 hours later with a start and went into the kitchen. My phone started ringing. I was going to ignore the call, but something told me I should pick up.

As soon as I answered, I could tell by the caller's breathing that she had awful news. The young woman on the line told me that my 22-year-old daughter, Schuyler, had been in a terrible accident and that, thousands of miles away in Colombia, she was fighting for her life.

The youngest of my three children, Schuyler, after graduating from Yale University, had gone to South America in the spirit of adventure and out of concern for others. As an undergraduate,

she'd cofounded a branch of an organization that inspires students to address inequality and protect the environment. Now, through a fellowship, she was building schools, learning to farm, and studying handmade goods in Peru.

Schuyler had taken a brief vacation to visit Colombia with a friend. On the call, in the midst of panic and grief, I learned that the accident had occurred during a rafting trip. Their group had pulled up to shore so the paddlers could take turns jumping off a cliff into the river. Wearing her life jacket, Schuyler was bobbing in the water when a boulder dislodged from the mountainside, careered off the cliff, and smashed down onto her head. At first, no one knew she'd been injured, but when her body floated to the water's surface, they saw the blood. The boulder had crushed the front of Schuyler's skull, leaving a hole in her forehead. Later, we would find out that it had also fractured her spine, broken both shoulder blades, snapped her right thigh, shattered her ankle, and collapsed her lungs.

Her friend and the raft guides pulled Schuyler out of the water, loaded her



into a van, and held her for 40 minutes as they sped over a bumpy dirt road to a waiting ambulance. A hospital in the town of Socorro, which had one of the few intensive care units in Colombia, was another 20 minutes away. A leading neurology surgeon lived nearby and rushed to the hospital to save my daughter.

Nothing could have prepared me for the challenge I faced, even though I had weathered my share of troubles. I'd been a single mother for almost 2 decades. The children's father and I rarely spoke. I felt guilty that Schuyler; her sister, Saya; and her brother, Linden, had no father figure. In need of help with the kids and my finances, I'd made some poor choices that landed me in abusive relationships. It was hard on all of us, but we emerged stronger and more unified as a family. And in recent years, my life had improved. I had started my own agency in Tampa representing performing artists—and I'd found new love.



"For me, pivoting is an active process," says Hankenson. "I slowly inch my brain away from terror to a place of comfort."

"Now you're ready," the universe seemed to say. "Now you can have a full life."

I knew that Schuyler might die before I was able to hold her living, breathing body again and immediately called Linden, Saya, and my mother. While I tried to prepare for an indefinite length of time away from home, friends and family searched for flights that would get Saya and me to Bogotá and then Socorro.



## PERSONAL JOURNEY

On the plane, I swung between disbelief and guilt, wondering if I could have prevented this accident by clipping Schuy's wings a little bit. But I knew that would have been impossible. With Schuy, it wasn't *if* she'd do something extraordinary, it was *when*. She was the sunshine in our family. What a wonderful life she had ahead of her, and now, suddenly, she might leave us. I wept while thinking the worst.

My shock then took a turn, and I had another thought: Because of who Schuyler was and all she meant to us, the last thing I should do was succumb to despair. I had long believed that if you can mentally transform a desire into an expectation, life will sometimes

deliver what you hope for. Some people call this faith. I call it pivoting. It's the process of stopping destructive thoughts and consciously exchanging them for the best possible outlook. I'd honed this method of dealing with difficult situations, influenced by the writing of inspirational speaker and author Esther Hicks. Now I had to call on it for something I never could have anticipated.

Before the plane touched down, I promised myself that I wouldn't arrive at the hospital a distraught mother but instead would stay focused, ready to do whatever I could to help my daughter.

Seeing Schuyler for the first time in that hospital bed challenged my



After multiple surgeries and months of rehab, Schuyler has made remarkable progress. Her mother tells her, "That accomplishment you just made, no matter how big or small, deserves a standing ovation."

conviction. The x-rays revealed that her eye sockets had been broken, and there was a huge hole in the front of her skull. The doctors told me she had a traumatic brain injury and was unlikely to survive the week. Even if she did, they said, she would almost certainly be blind and possibly paralyzed. I could have collapsed, but I pivoted instead. As I sat next to her bed, I sent Schuyler every ounce of positivity I could muster. I don't know if my invisible effort had anything to do with what happened the next morning: A CT scan of Schuy's brain showed that the swelling in her brain had decreased significantly. The surgeon called it a miracle.

Schuyler remained in critical condition, so we had to move quickly to get her to a facility in the United States that could provide the care she needed. We chose Jackson Memorial Hospital in Miami, which has one of the world's leading neurological trauma centers. Once there, Schuyler underwent intense surgeries on her brain, spine, face, leg, and ankle. Altogether, she spent more than 2 months in the hospital and then went to rehab. I stayed close by in a rented apartment.

We'd come a long way, but my journey was just beginning. I became Schuyler's 24/7 caregiver, learning how to move her safely from her bed to the bathroom and blending all her meals as she relearned how to swallow. It took so much time that I worried I wouldn't be able to maintain my income. I often thought, *I can't do this*, and yet I knew I couldn't let my

negativity affect Schuyler. I had to pivot away from my darker thoughts.

Some of the most inspiring people have weathered struggles and emerged as extraordinary contributors to the world. Instead of feeling cursed by our circumstances, I choose to believe Schuyler and I were blessed with an opportunity to do something amazing in our lives. I believe we are coming to the part of the movie where it gets exciting and leads to a great conclusion.

I've found a new passion. I've started a company that offers coaching for people who have encountered seemingly insurmountable obstacles. I also do motivational speaking and host empowerment retreats. The goal is to help more people believe that their happiness is not defined by their physical circumstances but instead is achieved by finding a purpose, the "why" of one's life.

Schuyler came home in July 2016. Her physical therapy is going well. Her memory is amazing, given her injuries, and her speech is becoming clearer. We know that it can take 7 years to recover from a brain injury, so we keep her why in sight and fill our days with love and laughter. And Schuyler has a new goal: In March, she plans to walk down the aisle (with assistance) as the maid of honor in Saya's wedding. 🌟

#### WHERE HAS A JOURNEY TAKEN YOU?

We're looking for inspiring stories to share with *Prevention* readers. Submit a summary of your Personal Journey in 200 words or less or nominate someone you know who has a story of challenge, resilience, and growth at [readerstories@prevention.com](mailto:readerstories@prevention.com).

# SUPERFAST FITNESS

**These 5-minute workouts burn fat,  
build strength, and banish holiday stress.**

**BY EVELYN SPENCE PHOTOGRAPHS BY JAMES FARRELL**



**W**ho can carve out 45 minutes a day for exercise in December, arguably the busiest month of the year? Most of us are totally overcommitted during the holidays. As a result, it's easy for our exercise routines to take a vacation.

Well, let's unwrap a gift just for you: a plan to get and stay fit in 5 minutes a day. For an investment of 300 seconds, you can boost your energy, fire up your metabolism, and tame holiday tension.

Supershort workouts offer another benefit for the time-crunched: stick-to-itiveness. "If you give up exercising for a month, it will be a lot harder to start again in January," says Nick Clayton, personal training manager at the National Strength and Conditioning Association. But 5 minutes a day can keep you mentally committed to fitness.

Each day, choose one of the ultraefficient workouts on the following pages. Do others if you have more time, but avoid strength workouts on consecutive days. Alternate routines throughout the month to achieve what we all really need in December: balance.

**Strengthen your  
core with the  
bridge, p. 77.**





Perform  
each move for  
60 seconds,  
then rest for  
15 seconds.

### Seal Jack

Stand tall, feet together, abs engaged, arms held straight in front parallel to floor, palms together. Jump, spreading legs and arms out to sides simultaneously, as shown. Quickly jump back to starting position, clapping hands together (like a seal).

## CARDIO

"Bigger movements that engage more muscles will give you the biggest bang for your buck," says Chris Jordan, director of exercise physiology at Johnson & Johnson Human Performance Institute in Orlando. To keep workouts short, choose exercises that work multiple parts of your body at once, like the four here.





### Modified Mountain Climber

Place hands on seat of sturdy chair or arm of sofa and walk feet back to push-up position. Arms should be nearly straight with slight bend in elbows, hands directly under shoulders. From this position, bring right knee forward, tapping foot on floor before returning it behind you. Repeat on opposite side, then continue alternating as fast as possible with good form.



### Squat

With feet a bit more than hip-width apart, lift chest, extend arms forward, and shift weight back onto heels. Bend knees and push hips back and down as if sitting in a chair. Don't let knees travel forward past toes. Sit back until thighs are almost parallel to floor, then push up through heels to return to starting position.



### Bicycle Crunch

Lie on back with knees bent, feet flat on floor, and hands behind head. Lift left leg and crunch torso to left to bring right elbow toward left knee. Return to starting position and repeat on other side, bringing left elbow and right knee together. Continue cycling legs and twisting upper body, alternating elbows and knees.



Pick up an exercise mat and more fitness gear at **[shopprevention.com](http://shopprevention.com)**.



### Extension

Sit forward in chair, push feet into floor, reach arms overhead, and lean back gently. Hold 10 seconds, straighten up, then lean again—an inch farther if possible. Hold 10 seconds. Lean back farther and hold 10 seconds more. If your lower back hurts at any point, stop. The stretch should feel good, not painful. Lower your arms, then repeat sequence once more.



## FLEXIBILITY

“We spend most of our lives flexed forward—sitting at computers, holding phones, and driving,” says Joy Keller, a personal trainer in San Diego. Hunching rounds the shoulders, creating a curved posture and tightening neck muscles. These moves loosen your shoulder, neck, and upper-back muscles to release tension and counter what Keller calls “tech neck.”



### Forward Fold

Sitting in chair with knees together and feet flat on floor, inhale, then exhale and bend forward, rounding shoulders. Concentrate on curving your spine one vertebra at a time. Let arms hang by sides toward floor. Hold 30 seconds, allowing gravity to stretch spine. Sit up, then repeat once more.



### Neck Stretch

Sitting up straight in chair, place right hand on top of head near left ear and let weight of arm gently pull head toward right shoulder. (Don't bring shoulder up to ear.) Relax, hold 30 seconds, and slowly return to starting position. Switch hands and tilt head toward left shoulder. Hold 30 seconds.



### Seated Figure-Four Stretch

Scoot butt forward on seat of chair. Keeping a lengthened, straight spine, anchor right foot on floor and lift left leg, placing left ankle over right knee. Hold. To increase stretch, gently push down on left leg and hinge forward at hips. Hold 30 seconds before repeating with opposite leg.



### Seated Chest Stretch

Sitting on edge of chair with knees together and feet flat on floor, rotate torso to right, extending right arm back over top of chair, thumb up. Rest left hand on knee. Look back over right shoulder and hold 20 to 30 seconds, then slowly turn torso forward, bringing arm to front. Repeat on opposite side, extending left arm over chair.

# CORE

You use your core muscles every time you move, whether you're walking or lifting a bag of groceries. These muscles support your spine, holding your upper body erect and letting you twist and bend. "Working your core means working all of it: abs and back, side to side, inside and out," says Keller. Do this workout at least twice a week.

## Standing Cross Crunch

Stand with feet slightly more than shoulder-width apart. Place hands behind head and keep elbows pointed out to sides. Rotating torso, crunch at waist, bringing left elbow down and right knee up to meet elbow. Return to standing and repeat with right elbow and left knee. Alternate until you need to rest, then continue.



Perform each move for 45 seconds, then rest for 15 seconds.



### **Straight-Arm Plank**

Get into push-up position, hands directly under shoulders, back straight, with your body forming a straight line from head to heels. Contract abs. Hold with good form as long as possible. Rest when needed, then assume plank again.



### **Swimmer**

Lying facedown with core engaged, extend arms in front of you with palms on floor and legs outstretched. Lift head and upper back off floor slightly, then raise left arm and right leg simultaneously. Return to starting position, then raise right arm and left leg. Continue alternating until you need to rest, then resume.



### **Torso Twist (left)**

Stand with feet shoulder-width apart. Engage core muscles to brace torso without arching back. With hands behind head, elbows out, rotate torso to left. Hold briefly, keeping abs tight, then rotate to right. Rest when needed, then continue.

### **Bridge (photo on p. 70)**

Lie on back with knees bent and feet flat on floor, arms at sides. Contract abs to flatten lower back against floor. Keeping abs engaged, lift hips off floor, forming a straight line from shoulders to knees. Hold 10 to 15 seconds, then lower. Repeat 3 times.



A woman with blonde hair tied back, wearing a dark blue sleeveless top and grey leggings, is performing a goblet squat. She is holding a red dumbbell with both hands in front of her chest. She is in a squatting position with her feet wider than shoulder-width apart and toes pointed slightly outwards. She is standing on a blue exercise mat. In the background, there is a window with a view of a city, a potted plant with orange flowers, and a white sofa.

Perform  
each move for  
90 seconds,  
then rest for  
15 seconds.

### Goblet Squat With Dumbbell

Grasp a dumbbell vertically at one end with both hands, holding it close to chest with elbows bent. Place feet more than shoulder-width apart, toes pointed out slightly. Keeping chest up and back straight, bend knees and push hips back, as if sitting in a chair, until elbows meet knees. Press through heels to rise, then repeat.

## STRENGTH

Need some incentive to pick up weights? Once you put them down, you'll not only get stronger but also burn calories at an accelerated rate. That's because strength training causes microscopic tears in your muscle fibers. While repairing those muscles and making them stronger, your body uses more energy, says Wayne Westcott, exercise physiologist at Quincy College.

### Dumbbell Chest Press on Floor

Lie on back with knees bent and feet flat on floor. Grasp 1 dumbbell in each hand and hold both above you with straight arms, palms facing forward. Bend elbows until upper arms rest on floor. Forearms should be vertical (as shown). This is starting position. Now push dumbbells above chest until arms are straight. Pause, squeezing chest muscles. Slowly bring dumbbells down to starting position. Repeat.



### Dumbbell Bent-Over Row

Holding 1 dumbbell in each hand at sides, stand with feet shoulder-width apart and knees slightly bent. Bend forward at hips until back is between 45 degrees and parallel to floor (A). Squeezing shoulder blades together, pull both weights toward sides of chest (B), pause, then lower. Repeat without standing up.



**PREMIUM**  
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For bonus stress-busting exercises plus easy nutrition tips, visit our subscription-only website at [prevention.com/premium](http://prevention.com/premium).



Surprising new research  
shows that you can harness  
your tension to gain strength,  
energy, and happiness.

BY GINNY GRAVES



**STRESS**  
CAN MAKE YOU  
**STRONGER**

ILLUSTRATIONS BY GABY D'ALESSANDRO



For years, experts have warned about the perils of stress. Stress, they say, increases the risk of health problems, from heart disease and diabetes to depression and headaches. But the warnings haven't eased the problem. This year, for the first time since the American Psychological Association started tracking the nation's stress in 2007, the average American's stress level surged.

Experts say the rise may be due to the addition of an increasingly divisive political climate to the usual stressors of money, work, relationships, and—at this time of year—holiday obligations, which cause anxiety in 62% of people in the US, according to a 2015 Healthline survey.

Amid the hand-wringing, a growing number of researchers have begun to

defend stress. New studies show that if people start thinking about everyday stress as a positive force, they can protect themselves from some of its damage—and use it to learn, grow, and thrive. “Our fight-or-flight response was designed to keep us safe and help us meet the demands we face every day,” says Alia Crum, an assistant professor of psychology at Stanford University. In fact, stress helps make people stronger, faster, more energetic, and even kinder.

## THE HIDDEN BENEFITS OF STRESS

Several years ago, University of Wisconsin scientists released a study that forced experts to rethink their understanding of this basic biological response. The researchers looked at data from nearly 30,000 people who participated in the 1998 National Health Interview Survey, which asked respondents about their experience of stress in the previous 12 months and to estimate how much it had adversely affected their health.

After checking death records through 2006, the investigators found that the people who said they had high levels of stress and believed it negatively affected their health had a 43% increased risk of dying prematurely.

“But those who reported high levels of stress and didn't believe it was



harmful had the lowest risk of dying of any group in the study—even lower than those who said they had very little stress,” says Kelly McGonigal, a health psychologist at Stanford and author of *The Upside of Stress: Why Stress Is Good for You and How to Get Good at It*. In fact, these people experienced stress as beneficial to their health. Other studies have confirmed the notion that stress can have positive effects on health and well-being.

Research shows that stress can actually bolster the immune system. Within 15 minutes of a stressful event, the body mobilizes pathogen-fighting cells in the bloodstream, which then fan out through the body to help it mount a more robust immune response. “The type of immune response that could help you fight a cold or infection is enhanced by short-term stress,” says Firdaus Dhabhar, a professor of psychiatry at the University of Miami’s Miller School of Medicine who has conducted research on how stress can strengthen or suppress immune function.

Under stress, the pituitary gland releases oxytocin, especially during uncomfortable social interactions. This hormone has been called the moral molecule because it enhances empathy and strengthens social bonds. And in the heat of a stressful moment, it does

something remarkable: It makes people want to reach out to others for help.

“Connecting with friends is one of the healthiest things you can do—it’s a powerful strategy for helping you become more resilient to stress,” says Steven Southwick, a professor of psychiatry at Yale University and the coauthor of *Resilience: The Science of Mastering Life’s Greatest Challenges*. Building a

network of family and friends will help protect you during adversity, and you deepen your connections and grow stronger when you face stress together.

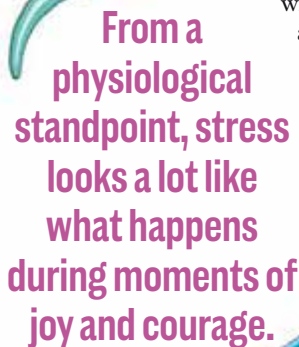
Even cortisol, the hormone that can be damaging to health when released during long-term stress, may help people bounce back after a serious trauma such as a car accident. Research on

people who’ve experienced a traumatic event

shows that those who have a stronger stress response, including higher levels of cortisol, are more likely to make an effective recovery. “We don’t usually think of the stress response as helpful,” says McGonigal. “But in many ways it’s your best ally during difficult challenges.”

## WHEN STRESS IS MORE SERIOUS

Beyond everyday aggravations, even severe stress—like a cancer diagnosis,



From a physiological standpoint, stress looks a lot like what happens during moments of joy and courage.



divorce, or the death of a loved one—can lead to growth in the aftermath of the event, although there are negative effects, too.

Many of the most harmful consequences of stress, like chronic inflammation, overeating, and memory impairment, occur when cortisol stays elevated for an extended period, as happens with trauma. But emotionally, it's a different story. Many people who have faced difficult ordeals actually experience post-traumatic growth, in which their tribulations serve as a springboard for positive life changes.

"At least half and maybe two-thirds of people who've faced trauma report some kind of positive development or personal growth afterward," says Richard Tedeschi, a professor of psychology at the University of North Carolina at Charlotte who, along with colleague Lawrence Calhoun, identified the phenomenon. That doesn't mean that people who have faced a terrible setback should feel happy they had to endure it. "But those who are willing to face their troubles, rather than avoid and try to ignore them, are more likely to come away with an enhanced sense of purpose, a deeper sense of meaning, or stronger connections with loved ones than those who aren't," says Tedeschi.


## **SEEING PROBLEMS AS POSITIVE**

When someone who hates public speaking has to give a presentation to a local organization, a typical stress response would be a heightened heart

rate and constriction of blood vessels, one of the reasons stress is associated with cardiovascular disease. But if the same person is able to think of the stressful feelings as healthy and helpful—for example, by viewing them as the source of energy necessary to stay focused and speak more powerfully—the blood vessels stay relaxed.

Granted, it's not easy for people to simply change their attitude toward stress (see a three-step plan for how to do it on the opposite page), but it's worth trying. "From a physiological perspective, the combination of increased heart rate and relaxed blood vessels looks a lot like what happens during moments of joy and courage—and that one change could have a positive impact on your cardiovascular health," says McGonigal.

Crum's research has shown that viewing stress as helpful rather than harmful is associated with not only better health but also greater emotional well-being, increased life satisfaction, and improved work productivity. People who are able to adopt a "stress is good" mind-set create more positive emotions in part because they've stopped worrying about the fact that they're stressed.

Believing stress is helpful doesn't change the facts of the situation: You might still have a financial problem or a spouse who is ill. "But you feel a little more hopeful and confident," says Crum. "And those positive emotions can go a long way toward keeping us motivated and changing our health in positive ways." 

# How to CHANGE YOUR MIND

Psychologist Alia Crum suggests steps for rethinking your relationship with stress.

about stress

## Acknowledge it.

Make a list of some of the unproductive things you do when you're feeling pressured, such as procrastinate or raid the refrigerator. The next time you're engaging in one of these activities, the list can act as a trigger to help you recognize what's happening.

At that point, name your stress by saying something like "I'm stressed because I have a lot of work to do in a short amount of time." Noting your stress this way shifts the activity in your brain from the automatic, emotional centers, like the amygdala (the brain's fear center), to the more conscious, thoughtful areas, like

the prefrontal cortex. That allows you to feel more in control.

## Welcome it.

Research shows that avoiding stress can increase anxiety and worry. Instead,

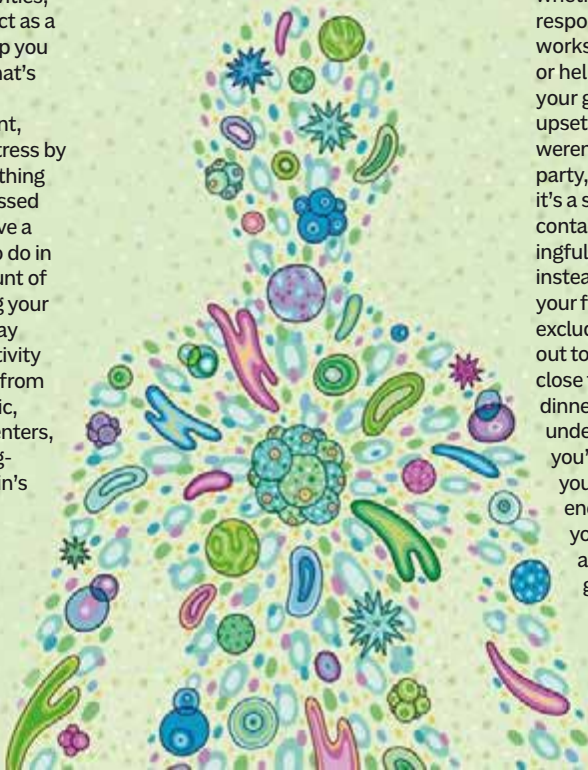
recognize that the more stressed you are, the more you care about the situation, and try to identify what issues or values are at stake. "It's easier to embrace stress when you see that

it's connected with something deeply meaningful," says Crum.

It can also be helpful to consciously reframe some of the feelings. Seeing the jitters before a speech as excitement rather than stress, for instance, can bolster your confidence and performance.


## Use it.

Think about whether your response to stress works against you or helps you meet your goals. If you're upset that you weren't invited to a party, recognize that it's a sign that social contact is meaningful to you. Then, instead of shunning your friends for excluding you, reach out to one you're close to and plan a dinner together. "By understanding why you're stressed, you can focus the energy it gives you on trying to achieve your goals," says Crum.



STRESS-FREE SEASON **FOOD**

# DINNER IN MINUTES



**SIX SIMPLE RECIPES TO MAKE A BUSY SEASON EASIER**

RECIPES BY THE *PREVENTION* TEST KITCHEN

PHOTOGRAPHS BY MONICA BUCK



# FLANK STEAK WITH TOMATO-HERB COUSCOUS

SERVES 4 PREP TIME: 10 MINUTES TOTAL TIME: 35 MINUTES

- 1 c whole wheat couscous
- ½ c sun-dried tomatoes in olive oil, drained and finely chopped
- ¼ c chopped fresh flat-leaf parsley
- 2 Tbsp chopped fresh basil
- 1 Tbsp red wine vinegar
- 1 clove garlic, minced
- 8 oz flank steak
- ¼ c shaved Parmesan

- 1. PREPARE** couscous according to package directions.
- 2. COMBINE** tomatoes, parsley, basil, vinegar, and garlic. Stir three-quarters of mixture into couscous and set remainder aside.
- 3. POSITION** rack 6" from broiler set to high. Season steak with salt and pepper and broil until medium, 4 minutes per side.
- 4. SPREAD** remaining tomato mixture on steak. Let rest 5 minutes.
- 5. SLICE** steak against grain into thin pieces and serve over couscous. Top with cheese.

**NUTRITION** (per serving) 317 cal, 22 g pro, 41 g carb, 7 g fiber, 1 g sugars (0 g added sugars), 8.5 g fat, 3 g sat fat, 42 mg chol, 393 mg sodium

**EVEN FASTER**  
For shorter cleanup time, shave Parmesan with a vegetable peeler instead of a box grater.



## KALE CAESAR SALAD

SERVES 4 PREP TIME: **10 MINUTES** TOTAL TIME: **20 MINUTES**

**1 lg bunch kale, stemmed and torn into bite-size pieces**

**½ sm red onion, thinly sliced**

**⅓ c store-bought light Caesar dressing**

**1 Tbsp olive oil**

**2 cloves garlic, crushed**

**2 slices whole grain bread, torn into bite-size pieces**

**2 cans (15 oz each) unsalted chickpeas, drained**

**¼ c grated or shaved Parmesan**

**½ tsp black pepper**

**1. TOSS** kale and onion with dressing until well coated.

**2. HEAT** oil in medium skillet over medium heat. Add garlic and cook until fragrant and golden, 2 to 3 minutes.

**3. DISCARD** garlic and add bread. Cook, stirring, until bread is golden and crisp, 5 minutes.

**4. DROP** croutons and chickpeas into salad. Sprinkle with cheese and pepper and toss to serve.

**NUTRITION** (per serving) 320 cal, 17 g pro, 48 g carb, 9 g fiber, 6 g sugars (2 g added sugars), 8 g fat, 1.5 g sat fat, 5 mg chol, 439 mg sodium

### EVEN FASTER

Use store-bought whole grain croutons or sliced almonds in place of homemade croutons.



# HAM & SWISS CHARD FRITTATA

SERVES 6 PREP TIME: 15 MINUTES TOTAL TIME: 40 MINUTES

- 1 Tbsp olive oil
- 2 c cremini, shiitake, or button mushrooms, sliced
- 3 leaves Swiss chard, stems and leaves chopped separately
- $\frac{1}{2}$  yellow onion, diced
- 4 oz ham steak, diced
- $1\frac{1}{2}$  tsp chopped fresh thyme
- $\frac{1}{2}$  tsp chopped fresh sage
- 1 clove garlic, minced
- 10 eggs, lightly beaten

**1. HEAT** oil in large non-stick skillet over medium heat. Add mushrooms and cook until liquid releases, 4 minutes.

**2. ADD** chard stems and onion, cooking until softened, 4 minutes.

**3. STIR** in chard leaves, ham, thyme, sage, and garlic. Cook until chard is wilted, 1 to 2 minutes.

**4. DISTRIBUTE** vegetables evenly in skillet, reduce heat to medium-low, and pour in eggs. Season with salt and pepper to taste.

**5. COVER** and cook until eggs are just set, 13 to 15 minutes.

**NUTRITION (per serving)**  
177 cal, 15 g pro, 3 g carb,  
1 g fiber, 1 g sugars (0 g  
added sugars), 11 g fat,  
3 g sat fat, 319 mg chol,  
435 mg sodium

**EVEN FASTER**  
Skip the herb  
chopping and use  
2 tsp Italian or  
poultry seasoning  
instead.



STRESS-FREE SEASON **FOOD**

**EVEN FASTER**

Use an apple  
slicer to easily  
cut potatoes  
into wedges.



# THYME CHICKEN & VEGETABLES

SERVES 4 PREP TIME: 10 MINUTES TOTAL TIME: 40 MINUTES

- 8 boneless, skinless chicken thighs
- 2 Tbsp olive oil
- 1 Tbsp fresh thyme
- 1 tsp lemon zest
- $\frac{3}{4}$  tsp salt
- $\frac{1}{2}$  tsp black pepper
- 2 russet potatoes, cut lengthwise into wedges
- 1 head broccoli, cut into florets
- 1 Tbsp minced fresh parsley
- 1 clove garlic, minced

**1. POSITION** racks in upper and lower thirds of oven and heat to 400°F. In 13" × 9" baking dish, toss chicken with 1 Tbsp of the oil, thyme, lemon zest, and half of the salt and pepper.

**2. TOSS** potatoes and broccoli on baking sheet with remaining 1 Tbsp oil, parsley, garlic, and remaining salt and pepper.

**3. PLACE** chicken and vegetables on different racks in oven and bake, flipping halfway through, until meat thermometer reads 165°F when inserted in thickest part of chicken and vegetables are tender, 30 minutes.

**NUTRITION** (per serving) 363 cal, 33 g pro, 30 g carb, 6 g fiber, 3 g sugars (0 g added sugars), 13 g fat, 2.5 g sat fat, 131 mg chol, 615 mg sodium







**EVEN FASTER**  
Try frozen rice.  
No need to cook it  
before using in  
the recipe!

## GARLIC-BUTTER SALMON PACKETS

SERVES 4 PREP TIME: 15 MINUTES TOTAL TIME: 30 MINUTES

- 2 c precooked brown rice
- 8 oz green beans (trimmed and halved, if desired)
- 4 salmon fillets (5–6 oz each)
- 2 Tbsp chopped fresh parsley
- 2 Tbsp unsalted butter, softened
- 1 Tbsp chopped fresh rosemary
- 2 cloves garlic, minced
- 1 lemon, thinly sliced
- $\frac{1}{4}$  c dry white wine (optional)

**1. POSITION** racks in upper and lower thirds of oven and heat to 425°F. Place  $\frac{1}{2}$  cup of the rice, one-quarter of the beans, and 1 salmon fillet each on four 16" x 12" pieces of foil or parchment.

**2. MASH** parsley, butter, rosemary, and garlic using fork. Add salt and black pepper to taste. Spread one-quarter of the mixture over each fillet. Shingle lemon slices on salmon and drizzle with 1 Tbsp of the wine (if using).

**3. SEAL** each piece of foil or parchment tightly to close and place on 2 baking sheets.

**4. BAKE** salmon to desired doneness, 12 to 15 minutes for medium. Remove from oven and open tableside for easy cleanup.

**NUTRITION (per serving)** 382 cal, 32 g pro, 27 g carb, 3 g fiber, 2 g sugars (0 g added sugars), 16 g fat, 5 g sat fat, 93 mg chol, 193 mg sodium



# WINTER PIZZA

SERVES 4 PREP TIME: **10 MINUTES** TOTAL TIME: **20 MINUTES**

- 1 Tbsp olive oil
- 2 med leeks, white and light green parts only, sliced into rounds
- 1 whole wheat pizza crust (12" long)
- 1 tsp paprika
- $\frac{1}{2}$  tsp salt
- $\frac{1}{4}$  tsp black pepper
- $\frac{1}{2}$  c cooked pureed butternut squash
- $\frac{1}{2}$  c shredded Gruyère

1. **HEAT** oil in medium skillet over medium heat. Add leeks and cook until softened and translucent, 8 minutes.
2. **HEAT** oven to 450°F. Place crust on baking sheet. Stir paprika, salt, and pepper into squash and spread evenly over crust.
3. **TOP** crust with leeks and cheese.
4. **BAKE** until cheese is golden and bubbly, 8 to 10 minutes.

**NUTRITION (per serving)**  
265 cal, 9 g pro, 36 g carb,  
3 g fiber, 3 g sugars (1 g added  
sugars), 11 g fat, 3 g sat fat,  
15 mg chol, 647 mg sodium

**EVEN FASTER**  
Slice the leeks  
with kitchen  
shears.



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Get your doctor's approval before beginning any exercise or dietary program.

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Prevention

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Blast belly fat, tone every inch,  
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Go to  
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to learn  
more!

If you're ready to slim down and flatten your belly for good,  
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# Stay Sharp

Try these fun workouts for your brain.

## 1 WORD LADDER

Change one letter in the word at each rung of the ladder, forming a new word as you do, to go from *HEAD* to *TAIL*.

HEAD

.....

.....

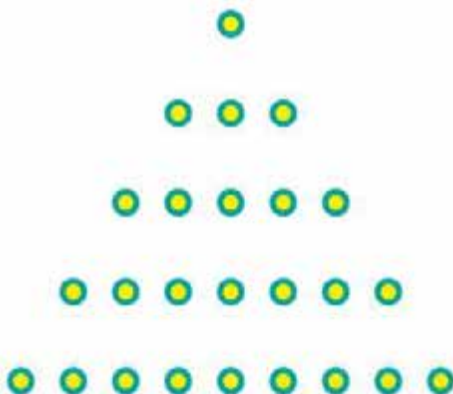
.....

.....

.....

TAIL

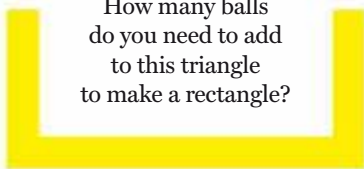
.....



## 2

## VISUALIZATION PUZZLE

How many balls do you need to add to this triangle to make a rectangle?

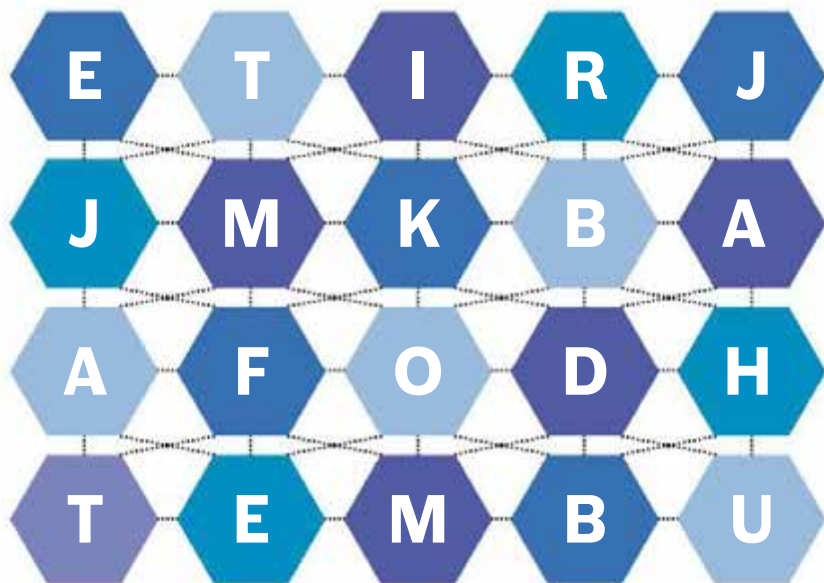


total of 20.



### 3 WORD WORLD

In 3 minutes, find as many words as you can in the grid below to bolster pattern recognition and mental processing speed. Words can run in any direction—up, down, sideways, or diagonally—as long as each letter touches the next one. For example, you can form the word *KITE* by starting with *K*, moving up to *I*, and so on. Try to beat our score of 16.




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### ***Inspiring Stories***

Send us a summary of your—or someone else's—Personal Journey to share with *Prevention* readers. To submit, go to p. 69.

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